HUNT ENGINEERS | ARCHITECTS | SURVEYORS

PROJECT MANUAL

for

Village of Hammondsport
DPW Building project
7976 Back Valley Road, Hammondsport, NY 14840

May 27, 2026

HUNT 1130-010

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SECTION 00 11 13
ADVERTISEMENT FOR BIDS

NOTICE IS HEREBY GIVEN, that sealed bids, in DUPLICATE, are sought and requested by the **Village of Hammondsport (hereinafter called "Owner"), for the construction of the following Project:**

DPW Building Project

Bids are requested for multiple prime contracts for General Trades Work, HVAC Work, Electrical Work, and Plumbing Work**,** in accordance with Drawings, Project Manual, and other Bidding and Contract Documents prepared by Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC 100 Hunt Center, Airport Corporate Park, Horseheads, NY 14845.

Sealed bids will be received by the Owner until 1:00 P.M. local time on July 2, 2026 at Hammondsport Village office, 80 Shethar Street Hammondsport, NY 14840, at which time and place all bids will be opened and publicly read aloud.

The Bidding Documents and Bid Forms may be examined at the following:

The Builders Exchange of the Southern Tier: www.bxstier.com East - 15 Belden Street, Binghamton NY 13903; West - 65 E. Main St., Falconer, NY 14733

Builders Exchange of Rochester, 180 Linden Oaks, Suite 100, Rochester, NY 14625-2837

Construction Exchange of Buffalo & WNY 2660 Williams Street, Cheektowaga, NY 14227

Syracuse Builders Exchange, 6563 Ridings Rd., Syracuse, NY 13206

Dodge Data and Analytics, 2860 S State Hwy 161, Ste.160 #501 Grand Prairie, TX 75052 www.construction.com

Construction Market Data (CMD), a ConstructConnect Company. Subscribers only; website: www.cmdgroup.com

Village of Hammondsport

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC Airport Corporate Park, 100 Hunt Center, Horseheads, NY 14845-1019

Bid Documents are also available for electronic viewing at www.HUNT-EASplans.com; including an up-to-date Plan Holders list.

Bid Documents may be obtained from the document distributor: Dataflow, Inc. via their designated web portal: www.nyplanroom.com. Office: **147 W. Gray Street, Suite 102, Elmira, NY 14901, phone (607) 734-8955 or (607) 772-2001 or BidSupport@goDataflow.com. Ordering from this web portal automatically places the prospective bidder on the plan holders' list. This designated web portal will be updated periodically with addenda, lists of registered plan holders, reports, and other information relevant to submitting a bid for the project. All official notifications, addenda, and other bidding documents will be offered through the designated web portal with notifications to registered bidders. Neither the Owner, Construction Manager, Architect/Engineer, nor Dataflow, Inc., as applicable, will be responsible for bidding documents, including addenda, if any, that are obtained from sources other than the designated web portal.**

Bid documents including plans and specifications are available for electronic download for a non-refundable fee of $49.00, payable by credit card. Bid documents including printed sets of plans and specifications may be ordered in paper format for a refundable fee of $50.00, payable by credit card. Non-refundable shipping charges may apply.

Refunds for printed sets will be made by Dataflow directly to the credit card provided by the bidder. Refunds for payment of one (1) copy of the printed sets will be made to those submitting bids on the forms furnished, if the printed set is returned in good condition to Dataflow within 30 days from the award of the contract or rejection of bids. Any non-bidder may be refunded their deposit only upon returning printed set PRIOR to bid opening.

All questions prior to bid opening must be received by the close of business on June 22, 2026. Questions shall be directed to Mike Pelino at Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC at email pelinom@hunt-eas.com. All bidders request for information shall use the form located in specification 00 12 00 - Request for Information. A digital copy of this form is available upon request.

As bid security, each Bid shall be accompanied by a certified check or Bid Bond made payable to Owner, in accordance with the amounts and terms described in the INSTRUCTIONS TO BIDDERS.

The Owner requires that all bids shall comply with the bidding requirements specified in the INSTRUCTIONS TO BIDDERS. The Owner may, at his discretion, waive informalities in bids, but is not obligated to do so, nor does this represent that he will do so. The Owner also reserves the right to reject any and all bids. Under no circumstances will the Owner waive any informality which, by such waiver, would give one Bidder a substantial advantage or benefit not enjoyed by all other Bidders. No Bidder may withdraw his Bid before forty-five (45) days after the actual date of the opening thereof, unless a mistake due to error is claimed by the Bidder in accordance with INSTRUCTIONS TO BIDDERS.

Attention of Bidders is particularly called to requirements as to conditions of employment to be observed and minimum wage rates to be paid under the Contract. Bidders must comply with Section 220-I of NYS Labor Law, and provide Certificate of Registration as a part of their bid.

A Pre-Bid conference for all Bidders will be held on Wednesday June 17, 2026, at 10:00 A.M. at the Project Site, 7976 Back Valley Road for the purpose of reviewing the bidding procedures, the scope of work, and inspecting the proposed work areas.

Christina Watson, Village Clerk-Treasurer

Village of Hammondsport, NY

SECTION 00 12 00
REQUEST FOR INFORMATION

DATE: _____.

CONTRACT: _____

DRAWING: _____

SPECIFICATION SECTION: _____

REQUEST: INCLUDE ATTACHMENTS AS REQUIRED TO CLARIFY QUESTION:

_____

_____

_____

_____

_____

_____

Requested by: _____
Name / Company Name

Contact Information: Phone_____E-mail: _____

ANSWER:

_____

_____

_____

_____

_____

By: _____ Date: _____ RFI #: _____

AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

1130-010 - Village of Hammondsport - DPW Building
18 Water Street
Hammondsport, NY 14840

THE OWNER:
(Name, legal status, address, and other information)

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840
6075693700

THE ARCHITECT:
(Name, legal status, address, and other information)

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC
Airport Corporate Park
Horseheads, NY 14845
607-358-1000

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ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

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ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- **.1** the Bidder has read and understands the Bidding Documents;
- **.2** the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- **.3** the Bid complies with the Bidding Documents;
- **.4** the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- **.5** the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- **.6** the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

Bidding Documents are available in paper copy or electronic format, as outlined in the Advertisement for Bids.

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within thirty days following the award of the contract or rejection of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

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§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

Requests shall be on form provided in the Bidding Documents, and submitted electronically, as outlined in the Advertisement for Bids.

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

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(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

Addenda, where practical, will be transmitted electronically regardless of how Bidding Documents were received. In all other instances, Addenda will be issued in paper copy.

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

§ 3.5 Or Equal Clause

§ 3.5.1 The use of manufacturer's brand names, catalog numbers, and similar proprietary identifying data in the contract documents are not intended to eliminate from consideration products that are equivalent in quality, appearance and function to those specified. Where, in the specifications, certain kinds, types, brands, or manufacturers of materials are named, they shall be regarded as the required standard of quality. Where two or more are named, these are presumed to be equal, and the contractor may select one of those items. Further, the contractor may be requested to submit information describing in specific detail, wherein the bid material differs from the quality and performance required by the base specifications, and such other information as may be required by the Architect. The risk of acceptance of bid equivalents is the responsibility of the contractor.

§ 3.5.2 If the contractor desires to use any kind, type, brand, or manufacturer of material other than those named in the Specification, he shall indicate in writing on the form included in Specification Section 00 44 00 Equivalent Listing, prior to award of contract, that kind, type, brand, or manufacture is included in the base and/or alternate bids for the specified item(s).

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter “No Change” or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder’s refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent’s authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

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§ 4.2.1 Each Bid shall be accompanied by the following bid security:
(Insert the form and amount of bid security.)

Bid security shall be in the amount of 5% of the bid amount, cash will not be accepted as bid security. Bid security shall be in one of the following forms:
a. Bid Bond from a company listed on Treasury Circular 570.
b. Certified Check.
c. Bank Check.

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning45 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids
§ 4.3.1 A Bidder shall submit its Bid as indicated below:
(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

Bids shall be submitted in paper copy as outlined in the Advertisement for Bids, and in accordance with Article 4 of these Instructions.

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid
§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

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§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:
(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

Notwithstanding any other provisions or regulations, the bid security shall be returned to the Bidder, at the address listed on the Bid Form as soon as is reasonable and practical.

§ 4.4.4 The stipulated time period after the receipt of bids during which bids may not be withdrawn is 45 calendar days. The stipulated time period within which alternates may not be withdrawn by the successful bidder is 120 days after acceptance of the bid.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.1.1 A copy of Contractor's Qualification Statement - AIA Document A305 is included for reference.

§ 6.2 Owner's Financial Capability

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- **.1** a designation of the Work to be performed with the Bidder's own forces;
- **.2** names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- **.3** names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

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.4 a Schedule of Values broken down by Specification Section for all portions of the work, unless otherwise noted in Section 01 20 00.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. The surety company shall be listed in the latest issue of the U.S. Treasury Circular 570.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.
(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

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.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013.)

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda:

Number	Date	Pages

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017.)

[ ] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents listed below:
(List here any additional documents that are intended to form part of the Proposed Contract Documents.)

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Changes to original AIA text

PAGE 2

Bidding Documents are available in paper copy or electronic format, as outlined in the Advertisement for Bids.

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ~~ten days after receipt~~ thirty days following the award of the contract or rejection of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

PAGE 3

Requests shall be on form provided in the Bidding Documents, and submitted electronically, as outlined in the Advertisement for Bids.

PAGE 4

Addenda, where practical, will be transmitted electronically regardless of how Bidding Documents were received. In all other instances, Addenda will be issued in paper copy.

§ 3.5 Or Equal Clause

§ 3.5.1 The use of manufacturer's brand names, catalog numbers, and similar proprietary identifying data in the contract documents are not intended to eliminate from consideration products that are equivalent in quality, appearance and function to those specified. Where, in the specifications, certain kinds, types, brands, or manufacturers of materials are named, they shall be regarded as the required standard of quality. Where two or more are named, these are presumed to be equal, and the contractor may select one of those items. Further, the contractor may be requested to submit information describing in specific detail, wherein the bid material differs from the quality and performance required by the base specifications, and such other information as may be required by the Architect. The risk of acceptance of bid equivalents is the responsibility of the contractor.

§ 3.5.2 If the contractor desires to use any kind, type, brand, or manufacturer of material other than those named in the Specification, he shall indicate in writing on the form included in Specification Section 00 44 00 Equivalent Listing, prior to award of contract, that kind, type, brand, or manufacture is included in the base and/or alternate bids for the specified item(s).

PAGE 6

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Notwithstanding any other provisions or regulations, the bid security shall be returned to the Bidder, at the address listed on the Bid Form as soon as is reasonable and practical. __

§ 4.4.4 The stipulated time period after the receipt of bids during which bids may not be withdrawn is 45 calendar days. The stipulated time period within which alternates may not be withdrawn by the successful bidder is 120 days after acceptance of the bid.

§ 6.1.1 A copy of Contractor's Qualification Statement - AIA Document A305 is included for reference.

PAGE 7

.4 a Schedule of Values broken down by Specification Section for all portions of the work, unless otherwise noted in Section 01 20 00.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. The surety company shall be listed in the latest issue of the U.S. Treasury Circular 570.

PAGE 8

.4 AIA Document E203™–2013, Building Information Modeling ~~Exhibit, if completed:~~and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013.)

Variable Information

PAGE 1

1130-010 - Village of Hammondsport - DPW Building

18 Water Street
Hammondsport, NY 14840

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

6075693700

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC

Airport Corporate Park
Horseheads, NY 14845

607-358-1000

PAGE 5

Bid security shall be in the amount of 5% of the bid amount, cash will not be accepted as bid security. Bid security shall be in one of the following forms:

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a. Bid Bond from a company listed on Treasury Circular 570.
b. Certified Check.
c. Bank Check.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning
45
days after the opening of Bids, withdraw its Bid and request the return of its bid security.

Bids shall be submitted in paper copy as outlined in the Advertisement for Bids, and in accordance with Article 4 of these Instructions.

PAGE 6

Notwithstanding any other provisions or regulations, the bid security shall be returned to the Bidder, at the address listed on the Bid Form as soon as is reasonable and practical.

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_____

(Signed)

_____

(Title)

_____

(Dated)

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SECTION 00 41 13
BID FORM

(SUBMIT IN DUPLICATE)

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC

Airport Corporate Park, 100 HUNT Center Horseheads, NY 14845

BID SUBMITTED BY:_____

ADDRESS:_____

PHONE NUMBER:_____

E-MAIL ADDRESS:_____

FAX NUMBER: _____

FEDERAL EMPLOYER IDENTIFICATION NUMBER: _____

NEW YORK STATE DEPARTMENT OF LABOR REGISTRATION #_____

Copy of NYSDOL Certificate of Registration MUST be submitted with bid.

PROJECT NAME: DPW Building Project

HUNT PROJECT NUMBER: 1130-010

OWNER: Village of Hammondsport

The bidder (identified above) hereby certifies that he has examined and fully understands the requirements and intent of the BIDDING AND CONTRACT DOCUMENTS, including Drawings, Project Manual, and Addenda; and proposes to furnish all labor, materials, and equipment necessary to complete the Work on or before, the dates specified in the Contract Documents for the BASE BID sum of:

CONTRACT #:

(Refer to Section 01 10 00 Summary)

_____

(AMOUNT IN WORDS)

_____

(AMOUNT IN FIGURES)

SHOW AMOUNT OF BASE BID IN BOTH WORDS AND FIGURES; IN CASE OF DISCREPANCY BETWEEN WORDS AND FIGURES SHOWN, THE AMOUNT SHOWN IN WORDS WILL GOVERN.

ADDENDA

THE FOLLOWING ADDENDA HAVE BEEN RECEIVED. THE MODIFICATIONS TO THE BID DOCUMENTS NOTED BELOW HAVE BEEN CONSIDERED AND ALL COSTS ARE INCLUDED IN THE BID AMOUNT.

LIST OF ADDENDA RECEIVED

No. _____ Date _____ No._____ Date _____

No. _____ Date _____ No._____ Date _____

No. _____ Date _____ No._____ Date _____

ALTERNATES

Indicate in the spaces provided below the amount to be added to or deducted from the BASE BID if the following ALTERNATES as described in SECTION 01 23 00 - Alternates of the Project Manual are accepted by the Owner.

Include in the amount of the ALTERNATES, all labor, materials, overhead and profit, modification of work specified in Contract Documents, and additional or lesser work required under your scope of work that may be required by acceptance of the ALTERNATE.

Include entries for all ALTERNATES listed by indicating Add, Deduct, or No Change, followed by appropriate amounts for work under the Contract scope.

Refer to INSTRUCTIONS TO BIDDERS and SECTION 01 23 00 - Alternates for additional information regarding ALTERNATES.

LIST OF ALTERNATES:

ALTERNATE NO. 1: Asphalt Pavement Rehabilitation:

Circle One: Add Deduct No Change

_____

(Amount in Words)

_____

(Amount in Figures)

ALTERNATE NO. 2: Convenience Outlets, Switches, and Lighting:

Circle One: Add Deduct No Change

_____

(Amount in Words)

_____

(Amount in Figures)

ALTERNATE NO. 3: Cast-in-Place Concrete Aprons:

Circle One: Add Deduct No Change

_____

(Amount in Words)

_____

(Amount in Figures)

EXECUTION OF CONTRACT

If written notice of the acceptance of this BID is mailed, telegraphed, or otherwise delivered to the undersigned within (45) days after the date of opening of the Bids, the undersigned will, within ten (10) days after the date of such delivery, execute and deliver a contract in the form as required by the Architect.

The BID may be withdrawn at any time prior to the scheduled time for the opening of Bids, or any authorized postponement thereof.

SIGNATURE_____

NAME OF BIDDER (Corporate Name)_____

( )

( ) SIGNATURE OF CORPORATE OFFICER_____

( )

( )

( )

( )

( ) DATE_____

Signature: _____

Name of Bidder:_____

END OF SECTION

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AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

BOND AMOUNT: $

PROJECT:
(Name, location or address, and Project number, if any)
1130-010 - Village of Hammondsport - DPW Building
18 Water Street
Hammondsport, NY 14840

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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bond and not as a common law bond.

Signed and sealed this Fifth day of May , Two Thousand Twenty-Six

CONTRACTOR AS PRINCIPAL *(Signature)*	**SURETY** *(Signature)*
(Printed name and title)	*(Printed name and title)*
(Witness)	*(Witness)*

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Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

1130-010 - Village of Hammondsport - DPW Building

18 Water Street
Hammondsport, NY 14840

PAGE 2

Signed and sealed this Fifth day of May , Two Thousand Twenty-Six

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_____

(Signed)

_____

(Title)

_____

(Dated)

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SECTION 00 44 00
EQUIVALENT LISTING

PRIME CONTRACT: _____

SUBMITTED BY 3 LOW BIDDERS WITHIN 72 HOURS AFTER BID OPENING

In accordance with Article 3 of Instructions to Bidders, list proposed equivalents and corresponding specified products below. Complete and submit additional copies of this form as necessary for additional products.

Attach additional sheet identifying any aspect of the Contract Documents that cannot be complied with by the manufacturer or supplier of the proposed equivalent product.

Specified Product	Equivalent Product
Technical Section:_____	Manufacturer:_____
Specified Product:_____	Designation:_____
Technical Section:_____	Manufacturer:_____
Specified Product:_____	Designation:_____
Technical Section:_____	Manufacturer:_____
Specified Product:_____	Designation:_____
Technical Section:_____	Manufacturer:_____
Specified Product:_____	Designation:_____
Technical Section:_____	Manufacturer:_____

END OF SECTION

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AIA® Document A305® – 2020

Contractor's Qualification Statement

THE PARTIES SHOULD EXECUTE A SEPARATE CONFIDENTIALITY AGREEMENT IF THEY INTEND FOR ANY OF THE INFORMATION IN THIS A305-2020 TO BE HELD CONFIDENTIAL.

SUBMITTED BY:

(Organization name and address.)

SUBMITTED TO:

(Organization name and address.)

TYPE OF WORK TYPICALLY PERFORMED

(Indicate the type of work your organization typically performs, such as general contracting, construction manager as constructor services, HVAC contracting, electrical contracting, plumbing contracting, or other.)

THIS CONTRACTOR'S QUALIFICATION STATEMENT INCLUDES THE FOLLOWING:

(Check all that apply.)

[ ] Exhibit A – General Information
[ ] Exhibit B – Financial and Performance Information
[ ] Exhibit C – Project-Specific Information
[ ] Exhibit D – Past Project Experience
[ ] Exhibit E – Past Project Experience (Continued)

CONTRACTOR CERTIFICATION

The undersigned certifies under oath that the information provided in this Contractor's Qualification Statement is true and sufficiently complete so as not to be misleading.

Organization's Authorized Representative Signature **Date**

Printed Name and Title

NOTARY

State of:
County of:
Signed and sworn to before me this day of

Notary Signature

My commission expires:

ADDITIONS AND DELETIONS:

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

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_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA® Document A305® – 2020 Exhibit A

General Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by and dated the day of in the year
(In words, indicate day, month and year.)

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

§ A.1 ORGANIZATION
§ A.1.1 Name and Location
§ A.1.1.1 Identify the full legal name of your organization.

§ A.1.1.2 List all other names under which your organization currently does business and, for each name, identify jurisdictions in which it is registered to do business under that trade name.

§ A.1.1.3 List all prior names under which your organization has operated and, for each name, indicate the date range and jurisdiction in which it was used.

§ A.1.1.4 Identify the address of your organization's principal place of business and list all office locations out of which your organization conducts business. If your organization has multiple offices, you may attach an exhibit or refer to a website.

§ A.1.2 Legal Status
§ A.1.2.1 Identify the legal status under which your organization does business, such as sole proprietorship, partnership, corporation, limited liability corporation, joint venture, or other.

.1 If your organization is a corporation, identify the state in which it is incorporated, the date of incorporation, and its four highest-ranking corporate officers and their titles, as applicable.

.2 If your organization is a partnership, identify its partners and its date of organization.

.3 If your organization is individually owned, identify its owner and date of organization.

.4 If the form of your organization is other than those listed above, describe it and identify its individual leaders:

§ A.1.2.2 Does your organization own, in whole or in part, any other construction-related businesses? If so, identify and describe those businesses and specify percentage of ownership.

§ A.1.3 Other Information

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§ A.1.3.1 How many years has your organization been in business?

§ A.1.3.2 How many full-time employees work for your organization?

§ A.1.3.3 List your North American Industry Classification System (NAICS) codes and titles. Specify which is your primary NAICS code.

§ A.1.3.4 Indicate whether your organization is certified as a governmentally recognized special business class, such as a minority business enterprise, woman business enterprise, service disabled veteran owned small business, woman owned small business, small business in a HUBZone, or a small disadvantaged business in the 8(a) Business Development Program. For each, identify the certifying authority and indicate jurisdictions to which such certification applies.

§ A.2 EXPERIENCE

§ A.2.1 Complete Exhibit D to describe up to four projects, either completed or in progress, that are representative of your organization's experience and capabilities.

§ A.2.2 State your organization's total dollar value of work currently under contract.

§ A.2.3 Of the amount stated in Section A.2.2, state the dollar value of work that remains to be completed:

§ A.2.4 State your organization's average annual dollar value of construction work performed during the last five years.

§ A.3 CAPABILITIES

§ A.3.1 List the categories of work that your organization typically self-performs.

§ A.3.2 Identify qualities, accreditations, services, skills, or personnel that you believe differentiate your organization from others.

§ A.3.3 Does your organization provide design collaboration or pre-construction services? If so, describe those services.

§ A.3.4 Does your organization use building information modeling (BIM)? If so, describe how your organization uses BIM and identify BIM software that your organization regularly uses.

§ A.3.5 Does your organization use a project management information system? If so, identify that system.

§ A.4 REFERENCES

§ A.4.1 Identify three client references:
(Insert name, organization, and contact information)

§ A.4.2 Identify three architect references:
(Insert name, organization, and contact information)

§ A.4.3 Identify one bank reference:
(Insert name, organization, and contact information)

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§ A.4.4 Identify three subcontractor or other trade references:
(Insert name, organization, and contact information)

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AIA® Document A305® – 2020 Exhibit B

Financial and Performance Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by and dated the day of in the year
(In words, indicate day, month and year.)

ADDITIONS AND DELETIONS:
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§ B.1 FINANCIAL

§ B.1.1 Federal tax identification number:

§ B.1.2 Attach financial statements for the last three years prepared in accordance with Generally Accepted Accounting Principles, including your organization's latest balance sheet and income statement. Also, indicate the name and contact information of the firm that prepared each financial statement.

§ B.1.3 Has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, been the subject of any bankruptcy proceeding within the last ten years?

§ B.1.4 Identify your organization's preferred credit rating agency and identification information.
(Identify rating agency, such as Dun and Bradstreet or Equifax, and insert your organization's identification number or other method of searching your organization's credit rating with such agency.)

§ B.2 DISPUTES AND DISCIPLINARY ACTIONS

§ B.2.1 Are there any pending or outstanding judgments, arbitration proceedings, bond claims, or lawsuits against your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, or any of the individuals listed in Exhibit A, Section 1.2, in which the amount in dispute is more than $75,000?
(If the answer is yes, provide an explanation.)

§ B.2.2 In the last five years has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management:
(If the answer to any of the questions below is yes, provide an explanation.)

.1 failed to complete work awarded to it?

.2 been terminated for any reason except for an owners' convenience?

.3 had any judgments, settlements, or awards pertaining to a construction project in which your organization was responsible for more than $75,000?

.4 filed any lawsuits or requested arbitration regarding a construction project?

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§ B.2.3 In the last five years, has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management; or any of the individuals listed in Exhibit A Section 1.2:
(If the answer to any of the questions below is yes, provide an explanation.)

.1 been convicted of, or indicted for, a business-related crime?

.2 had any business or professional license subjected to disciplinary action?

.3 been penalized or fined by a state or federal environmental agency?

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AIA® Document A305® – 2020 Exhibit C

Project Specific Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by and dated the day of in the year
(In words, indicate day, month and year.)

PROJECT:
(Name and location or address.)

1130-010 - Village of Hammondsport DPW Bui;ding
18 Water Street
Hammondsport, NY 1484

CONTRACTOR'S PROJECT OFFICE:
(Identify the office out of which the contractor proposes to perform the work for the Project.)

TYPE OF WORK SOUGHT
(Indicate the type of work you are seeking for this Project, such as general contracting, construction manager as constructor, design-build, HVAC subcontracting, electrical subcontracting, plumbing subcontracting, etc.)

CONFLICT OF INTEREST
Describe any conflict of interest your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, or any of the individuals listed in Exhibit A Section 1.2, may have regarding this Project.

§ C.1 PERFORMANCE OF THE WORK

§ C.1.1 When was the Contractor's Project Office established?

§ C.1.2 How many full-time field and office staff are respectively employed at the Contractor's Project Office?

§ C.1.3 List the business license and contractor license or registration numbers for the Contractor's Project Office that pertain to the Project.

§ C.1.4 Identify key personnel from your organization who will be meaningfully involved with work on this Project and indicate (1) their position on the Project team, (2) their office location, (3) their expertise and experience, and (4) projects similar to the Project on which they have worked.

§ C.1.5 Identify portions of work that you intend to self-perform on this Project.

§ C.1.6 To the extent known, list the subcontractors you intend to use for major portions of work on the Project.

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§ C.2 EXPERIENCE RELATED TO THE PROJECT

§ C.2.1 Complete Exhibit D to describe up to four projects performed by the Contractor's Project Office, either completed or in progress, that are relevant to this Project, such as projects in a similar geographic area or of similar project type. If you have already completed Exhibit D, but want to provide further examples of projects that are relevant to this Project, you may complete Exhibit E.

§ C.2.2 State the total dollar value of work currently under contract at the Contractor's Project Office:

§ C.2.3 Of the amount stated in Section C.2.2, state the dollar value of work that remains to be completed:

§ C.2.4 State the average annual dollar value of construction work performed by the Contractor's Project Office during the last five years.

§ C.2.5 List the total number of projects the Contractor's Project Office has completed in the last five years and state the dollar value of the largest contract the Contractor's Project Office has completed during that time.

§ C.3 SAFETY PROGRAM AND RECORD

§ C.3.1 Does the Contractor's Project Office have a written safety program?

§ C.3.2 List all safety-related citations and penalties the Contractor's Project Office has received in the last three years.

§ C.3.3 Attach the Contractor's Project Office's OSHA 300a Summary of Work-Related Injuries and Illnesses form for the last three years.

§ C.3.4 Attach a copy of your insurance agent's verification letter for your organization's current workers' compensation experience modification rate and rates for the last three years.

§ C.4 INSURANCE

§ C.4.1 Attach current certificates of insurance for your commercial general liability policy, umbrella insurance policy, and professional liability insurance policy, if any. Identify deductibles or self-insured retentions for your commercial general liability policy.

§ C.4.2 If requested, will your organization be able to provide property insurance for the Project written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis?

§ C.4.3 Does your commercial general liability policy contain any exclusions or restrictions of coverage that are prohibited in AIA Document A101-2017, Exhibit A, or AIA Document A132-2019, Exhibit A, as applicable, Insurance A.3.2.2.2? If so, identify.

§ C.5 SURETY

§ C.5.1 If requested, will your organization be able to provide a performance and payment bond for this Project?

§ C.5.2 Surety company name:

§ C.5.3 Surety agent name and contact information:

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§ C.5.4 Total bonding capacity:

§ C.5.5 Available bonding capacity as of the date of this qualification statement:

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PAGE 2

§ C.4.3 Does your commercial general liability policy contain any exclusions or restrictions of coverage that are prohibited in AIA Document A101-2017, Exhibit A, or AIA Document A132-2019, Exhibit A, as applicable, Insurance A.3.2.2.2? If so, identify.

Variable Information

PAGE 1

1130-010 - Village of Hammondsport DPW Bui;ding

18 Water Street
Hammondsport, NY 1484

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AIA® Document A305® – 2020 Exhibit D

Contractor's Past Project Experience

	1	2	3	4
PROJECT NAME				
PROJECT LOCATION				
PROJECT TYPE				
OWNER				
ARCHITECT				
CONTRACTOR'S PROJECT EXECUTIVE				
KEY PERSONNEL (include titles)				
PROJECT DETAILS	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00
PROJECT DELIVERY METHOD	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:
SUSTAINABILITY CERTIFICATIONS				

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AIA® Document A305® – 2020 Exhibit E

Contractor's Past Project Experience, Continued

	1	2	3	4
PROJECT NAME				
PROJECT LOCATION				
PROJECT TYPE				
OWNER				
ARCHITECT				
CONTRACTOR'S PROJECT EXECUTIVE				
KEY PERSONNEL (include titles)				
PROJECT DETAILS	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00	Contract Amount 0.00 Completion Date % Self-Performed Work 0.00
PROJECT DELIVERY METHOD	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:	[ ] Design-bid-build [ ] Design-build [ ] CM constructor [ ] CM advisor [ ] Other:
SUSTAINABILITY CERTIFICATIONS				

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SECTION 00 45 19
NON-COLLUSION AFFIDAVIT

(MUST BE SUBMITTED WITH BID)

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief:

A. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or any competitor;

B. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or competitor;

C. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit or not to submit a bid for the purpose of restricting competition;

D. That the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of Section 201-g of the Labor Law;

E. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing on its behalf;

F. That attached hereto (if a corporate bidder) is a certified copy of a resolution authorizing the execution of this certification by the signature of this bid or proposal in behalf of the corporate bidder.

A bid shall not be considered for award nor shall any award be made where A, B, C, and D above have not been complied with; provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where A, B, and C above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency, or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition. The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of Subparagraph B, above.

CONTINUED ON NEXT PAGE

Any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a corporate bidder for work or services performed to be performed or goods sold to or to be sold, where competitive bidding is required by the statute, rule, regulation, or local law, and where such bid contains the certification referred to herein, shall be deemed to have been authorized by the Board of Directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certification as to non-collusion as the act and deed of the corporation.

INDIVIDUAL_____

CORPORATION_____

Dated:_____

By:_____

(Signature of Officer)

END OF SECTION

SECTION 00 45 43
CORPORATE RESOLUTION
(MUST BE SUBMITTED WITH BID)

Resolve that _____

Name of Individual

Be authorized to sign and submit the bid or proposal of:

_____

Name of Corporation

For the following project: DPW Building Project

CONTRACT FOR:

_____

List Contract Type

The foregoing is a true and correct copy of the resolution by:

_____

Name of Corporation

At a meeting of it's Board of Directors held on:_____

Date

_____

Secretary

Seal of the Corporation

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SECTION 00 45 46.01
IRAN DIVESTMENT ACT CERTIFICATION

(MUST BE SUBMITTED WITH BID)

EVERY BID OR PROPOSAL HEREAFTER MADE TO A POLITICAL SUBDIVISION OF THE STATE OR ANY PUBLIC DEPARTMENT, AGENCY OR OFFICIAL THEREOF WHERE COMPETITIVE BIDDING IS REQUIRED BY STATUTE, RULE, REGULATION OR LOCAL LAW, FOR WORK OR SERVICES PERFORMED OR TO BE PERFORMED OR GOODS SOLD OR TO BE SOLD, SHALL CONTAIN THE FOLLOWING STATEMENT SUBSCRIBED BY THE BIDDER AND AFFIRMED BY SUCH BIDDER AS TRUE UNDER THE PENALTIES OF PERJURY:

INTRODUCTION:

As a result of the Iran Divestment Act of 2012 (Act), Chapter 1 of the 2012 Laws of New York, a new provision has been added to the State Finance Law (SFL), § 165-a, effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list (prohibited entities list) of “persons” who are engaged in “investment activities in Iran” (both are defined terms in the law). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act’s effective date, at which time it will be posted on the OGS website.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to Paragraph (b) of Subdivision (3) of Section 165a of the State Financial Law.

SIGNATURE: _____

PRINT NAME: _____

TITLE: _____

COMPANY NAME: _____

DATE: _____

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SECTION 00 45 46.02
FEDERAL AND STATE CERTIFICATION

(MUST BE SUBMITTED WITH BID)

INTRODUCTION:

Pursuant to Section 103, Subdivision 1-c of the New York General Municipal Law in the conduct of public bidding, the law requires the officer, board or agency of any political subdivision or of any district therein, to consider whether the putative low bidder or any substantially owned affiliated entity of the putative low bidder has been found to be in violation of any of three federal laws, specifically, the Davis-Bacon Act, the federal prevailing wage statute, the Copeland Act and the Contract Hours and Safety Standards Act which covers hours of work and safety standards in federal public contracting. If the putative low bidder is not in compliance with the named federal laws, then the Owner may not award the contract.

I, _____the _____of_____
(Name) (Title) (Company)

swear of affirm that the following is true:

1. The company, its principals or entities related to the company named above, is not now, nor ever has been, debarred from contracting with the United States Government or any State government.

2. The company is not now under investigation by any agency of the Federal Government or the government of any State for any actions by the company, its principals or any related entity, for any alleged malfeasance or misfeasance of any kind or nature which could lead to a debarment from governmental contracting or criminal prosecution, as well as render any contracts signed in reliance on this certification voidable by the party relying on this certification.

3. I have full legal authority under my company's organizational documents or bylaws to make this certification on the company's behalf.

4. I understand that submission of a false statement on this document will subject me to criminal prosecution.

Dated: _____ _____
Signature

END OF SECTION

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SECTION 00 45 46.04
GENDER-BASED VIOLENCE AND THE WORKPLACE CERTIFICATION

(MUST BE SUBMITTED WITH BID)

INTRODUCTION:

Pursuant to Section 139-M of the New York State Finance Law in the conduct of public bidding, the law requires any Bidder to certify that they have adopted and implemented a written “Gender-Based Violence and the Workplace” policy that meets or exceeds the minimum requirements established by the New York State Office for the Prevention of Domestic Violence (OPDV).

The policy shall include at a minimum:

1. A prohibition of discrimination or retaliation against employees who are victims or survivors of gender-based violence;
2. Provision of information to employees about gender-based violence, including posting of the NYS Domestic & Sexual Violence Hotline and related OPDV materials in conspicuous workplace locations;
3. Procedures for referring employees who disclose gender-based violence to the NYS Domestic & Sexual Violence Hotline (1-800-942-6906 / text 844-997-2121 / opdv.ny.gov), or to equivalent local providers if located outside New York State;
4. Compliance with all other applicable New York State laws and regulations.

The Bidder understands that failure to maintain such a policy may render it ineligible for award of this or future contracts with the State of New York or its political subdivisions.

The Bidder agrees to furnish a copy of its current policy upon request by the contracting agency or its representative.

CERTIFICATION:

By submission of this bid, each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the Bidder has and has implemented a written policy addressing gender-based violence and the workplace and has provided such policy to all of its employees, directors and board members. Such policy shall, at a minimum, meet the requirements of subdivision 11 of section five hundred seventy-five of the executive law.

ACKNOWLEDGEMENT:

I,_____the_____of_____

(Name) (Title) (Company)

swear or affirm under penalty of perjury, that the above statements are true and that our firm is in compliance with New York State Finance Law Section 139-M.

Dated: _____ _____

Signature

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AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor *where the basis of payment is a Stipulated Sum*

AGREEMENT made as of the Fifth day of May in the year Two Thousand Twenty-Six
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840
6075693700

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

1130-010 - Village of Hammondsport - DPW Building
18 Water Street
Hammondsport, NY 14840

The Architect:
(Name, legal status, address and other information)

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPCHunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC
Airport Corporate Park
Horseheads, NY 14845
607-358-1000

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

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2 THE WORK OF THIS CONTRACT

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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[ ] A date set forth in a notice to proceed issued by the Owner.

[ ] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

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[ ] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the

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month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the fifth day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the fifth day of the month following the one in which Application for Payment is received month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than sixty (60) days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

.1 That portion of the Contract Sum properly allocable to completed Work;

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

Five percent (5%)

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

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§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

%

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[ ] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[X] Litigation in a court of competent jurisdiction

[ ] Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document

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A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

Christopher McConnell
18 Water Street
Hammondsport, NY 14840
6075693700
dpw@hammondsport.us

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.5 Drawings

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Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

[ ] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

This Agreement entered into as of the day and year first written above.

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OWNER *(Signature)*

(Printed name and title)

CONTRACTOR *(Signature)*

(Printed name and title)

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Additions and Deletions Report for
AIA® Document A101® – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 11:48:01 EDT on 05/05/2026.

Changes to original AIA text

PAGE 1

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPCHunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC

PAGE 6

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with ~~a building information modeling exhibit,~~ AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with ~~a building information modeling exhibit,~~ AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

~~.4 Building information modeling exhibit, dated as indicated below:~~
~~*(Insert the date of the building information modeling exhibit incorporated into this Agreement.)*~~

Variable Information

PAGE 1

AGREEMENT made as of the Fifth day of May in the year Two Thousand Twenty-Six
(In words, indicate day, month and year.)

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

6075693700

1130-010 - Village of Hammondsport - DPW Building

18 Water Street
Hammondsport, NY 14840

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC

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Airport Corporate Park
Horseheads, NY 14845

607-358-1000

PAGE 4

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the fifth day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the fifth day of the month following the one in which Application for Payment is received month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than sixty (60) days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

Five percent (5%)

PAGE 5

[X] Litigation in a court of competent jurisdiction

PAGE 6

Christopher McConnell

18 Water Street
Hammondsport, NY 14840

6075693700

dpw@hammondsport.us

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:48:01 EDT on 05/05/2026 under Order No. 20240043203 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ - 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA® Document A101® – 2017 Exhibit A

Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the Fifth day of May in the year Two Thousand Twenty-Six
(In words, indicate day, month and year.)

for the following **PROJECT**:
(Name and location or address)

1130-010 - Village of Hammondsport - DPW Building
18 Water Street
Hammondsport, NY 14840

THE OWNER:
(Name, legal status and address)

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

THE CONTRACTOR:
(Name, legal status and address)

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Document A201®–2017, General Conditions of the Contract for Construction. Article 11 of A201®–2017 contains additional insurance provisions.

TABLE OF ARTICLES

A.1 GENERAL

A.2 OWNER'S INSURANCE

A.3 CONTRACTOR'S INSURANCE AND BONDS

A.4 SPECIAL TERMS AND CONDITIONS

ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201™–2017, General Conditions of the Contract for Construction.

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

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§ A.2.3 Required Property Insurance

§ A.2.3.1 Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ A.2.3.1.1 Causes of Loss. The insurance required by this Section A.2.3.1 shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. Sub-limits, if any, are as follows:
(Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss	Sub-Limit

§ A.2.3.1.1.1 The Insurance required by Section A.2.3.1 is not intended to cover the Contractor or Subcontractor against any loss by fire, lightning, extended coverage, all-risk, theft or vandalism and malicious mischief of any tools, equipment, vehicles, shanties, tool houses, trailers or other temporary or permanent structures, wherever located, and owned or rented by the Contractor, Subcontractor, their Employees or Agents.

§ A.2.3.1.2 Specific Required Coverages. The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:
(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)

Coverage	Sub-Limit

§ A.2.3.1.3 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section A.2.3.1 or, if necessary, replace the insurance policy required under Section A.2.3.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions.

§ A.2.3.1.4 Deductibles and Self-Insured Retentions. If the insurance required by this Section A.2.3 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ A.2.3.2 Occupancy or Use Prior to Substantial Completion. The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.2.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

§ A.2.3.3 Insurance for Existing Structures

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against

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direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ A.2.4 Optional Extended Property Insurance.
The Owner shall purchase and maintain the insurance selected and described below.
(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. For each type of insurance selected, indicate applicable limits of coverage or other conditions in the fill point below the selected item.)

[ ] **§ A.2.4.1 Loss of Use, Business Interruption, and Delay in Completion Insurance**, to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.

[ ] **§ A.2.4.2 Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.

[ ] **§ A.2.4.3 Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.

[ ] **§ A.2.4.4 Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.

[ ] **§ A.2.4.5 Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.

[ ] **§ A.2.4.6 Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.

[ ] **§ A.2.4.7 Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

§ A.2.5 Other Optional Insurance.
The Owner shall purchase and maintain the insurance selected below.
(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)

[ ] **§ A.2.5.1 Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information.
(Indicate applicable limits of coverage or other conditions in the fill point below.)

[ ] **§ A.2.5.2 Other Insurance**
(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

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Coverage	Limits

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

§ A.3.1 General

§ A.3.1.1 Certificates of Insurance. The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies.

§ A.3.1.1.1 The submittal of the certificates of insurance shall include a disclosure of any prior and/or pending claims against the submitted policies, additionally, the Contractor shall immediately make known to the Owner, any subsequent claims against the aforementioned
policies.

§ A.3.1.2 Deductibles and Self-Insured Retentions. The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.1.3 Additional Insured Obligations. To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

§ A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, and one to which the Owner has no reasonable objection. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.2.2 Commercial General Liability

§ A.3.2.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than one million dollars ($ 1,000,000) each occurrence, two million dollars ($ 2,000,000) general aggregate, and two million dollars ($ 2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including

- **.1** damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- **.2** personal injury and advertising injury;
- **.3** damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- **.4** bodily injury or property damage arising out of completed operations; and
- **.5** the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an

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exclusion or restriction of coverage for the following:

.1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.

.2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.

.3 Claims for bodily injury other than to employees of the insured.

.4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.

.5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.

.6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.

.7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.

.8 Claims related to roofing, if the Work involves roofing.

.9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.

.10 Claims related to earth subsidence or movement, where the Work involves such hazards.

.11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, or by employees of the Contractor, with policy limits of not less than one million dollars ($ 1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ A.3.2.5 Workers' Compensation and Disability Insurance at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than one million dollars ($ 1,000,000) each accident, one million dollars ($ 1,000,000) each employee, and two million dollars ($ 2,000,000) policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than three million dollars ($ 3,000,000) per claim and six million dollars ($ 6,000,000) in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than one million dollars ($ 1,000,000) per claim and two million dollars ($ 2,000,000) in the aggregate.

§ A.3.2.11 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than ($) per claim and ($) in the aggregate.

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than five million dollars ($ 5,000,000) per claim.

§ A.3.3 Contractor's Other Insurance Coverage

§ A.3.3.1 Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in

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Section 12.2.2 of the General Conditions, unless a different duration is stated below:
(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)

Umbrella Liability to provide bodily injury and property damage insurance limits in excess of those limits shown herein, with policy limits of not less than five million dollars ($5,000,000) each occurrence and five million dollars ($5,000,000) in the aggregate, with a retained limit of ten thousand dollars ($10,000)

§ A.3.3.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.
(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)

[ ] **§ A.3.3.2.1** Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below:
(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)

[ ] **§ A.3.3.2.2 Railroad Protective Liability Insurance**, with policy limits of not less than ($) per claim and ($) in the aggregate, for Work within fifty (50) feet of railroad property.

[X] **§ A.3.3.2.3 Asbestos Abatement Liability Insurance**, with policy limits of not less than one million dollars ($ 1,000,000) per claim and two million dollars ($ 2,000,000) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials, if the work requires such activities.

[X] **§ A.3.3.2.4** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

[X] **§ A.3.3.2.5** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

[ ] **§ A.3.3.2.6 Other Insurance**
(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	**Limits**

§ A.3.4 Performance Bond and Payment Bond
The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:
(Specify type and penal sum of bonds.)

Type	**Penal Sum ($0.00)**
Payment Bond	CONTRACT SUM

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Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

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Additions and Deletions Report for
AIA® Document A101® – 2017 Exhibit A

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Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 11:49:24 EDT on 05/05/2026.

Changes to original AIA text

PAGE 2

§ A.2.3.1.1.1 The Insurance required by Section A.2.3.1 is not intended to cover the Contractor or Subcontractor against any loss by fire, lightning, extended coverage, all-risk, theft or vandalism and malicious mischief of any tools, equipment, vehicles, shanties, tool houses, trailers or other temporary or permanent structures, wherever located, and owned or rented by the Contractor, Subcontractor, their Employees or

§ Agents.

§ A.2.3.1.2 Specific Required Coverages. The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:
(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)

PAGE 4

§ A.3.1.1.1 The submittal of the certificates of insurance shall include a disclosure of any prior and/or pending claims against the submitted policies, additionally, the Contractor shall immediately make known to the Owner, any subsequent claims against the aforementioned

§ policies.

§ A.3.1.2 Deductibles and Self-Insured Retentions. The Contractor shall disclose to the Owner any deductible or self- insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is ~~located.~~ located, and one to which the Owner has no reasonable objection. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:
(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)

PAGE 5

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§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, or by employees of the Contractor, with policy limits of not less than one million dollars ($ 1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.5 Workers' Compensation and Disability Insurance at statutory limits.

~~**§ A.3.2.10** Coverage under Sections A.3.2.8 and A.3.2.9 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than ($) per claim and ($) in the aggregate.~~

PAGE 6

[X] **§ A.3.3.2.3 Asbestos Abatement Liability Insurance**, with policy limits of not less than one million dollars ($ 1,000,000) per claim and two million dollars ($ 2,000,000) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing ~~materials.~~materials, if the work requires such activities.

Type	**Penal Sum ($0.00)**
Payment Bond	CONTRACT SUM
Performance Bond	CONTRACT SUM

Variable Information

PAGE 1

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the Fifth day of May in the year Two Thousand Twenty-Six
(In words, indicate day, month and year.)

1130-010 - Village of Hammondsport - DPW Building

18 Water Street
Hammondsport, NY 14840

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

PAGE 4

§ A.3.2.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than one million dollars ($ 1,000,000) each occurrence, two million dollars ($ 2,000,000) general aggregate, and two million dollars ($ 2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including

PAGE 5

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, or by employees of the Contractor, with policy limits of not less than one million dollars ($ 1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of

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those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.6 Employers' Liability with policy limits not less than one million dollars ($ 1,000,000) each accident, one million dollars ($ 1,000,000) each employee, and two million dollars ($ 2,000,000) policy limit.

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than three million dollars ($ 3,000,000) per claim and six million dollars ($ 6,000,000) in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than one million dollars ($ 1,000,000) per claim and two million dollars ($ 2,000,000) in the aggregate.

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than five million dollars ($ 5,000,000) per claim.

PAGE 6

Umbrella Liability to provide bodily injury and property damage insurance limits in excess of those limits shown herein, with policy limits of not less than five million dollars ($5,000,000) each occurrence and five million dollars ($5,000,000) in the aggregate, with a retained limit of ten thousand dollars ($10,000)

[X] **§ A.3.3.2.3 Asbestos Abatement Liability Insurance**, with policy limits of not less than one million dollars ($ 1,000,000) per claim and two million dollars ($ 2,000,000) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials, if the work requires such activities.

[X] **§ A.3.3.2.4** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

[X] **§ A.3.3.2.5** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

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AIA® Document A312® – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Village of Hammondsport
18 Water Street
Hammondsport, NY 14840

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)
Amount: $

Modifications to this Bond:		None		See Section 16

Company: *(Corporate seal)*

Company: *(Corporate seal)*

CONTRACTOR AS PRINCIPAL
(Signature)

SURETY *(Signature)*

(Printed name and title)

(Printed name and title)

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

ADDITIONS AND DELETIONS:
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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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AGENT or **BROKER:**	**OWNER'S REPRESENTATIVE:** *(Architect, Engineer or other party:)* Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC \

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from

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the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

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Changes to original AIA text

PAGE 1

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
–Village of Hammondsport
18 Water Street
Hammondsport, NY 14840

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)
Amount: $

Modifications to this Bond:		None		See Section 16

PAGE 2

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)
Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC
\

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PAGE 4

Variable Information

There are no variables which have been provided

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:51:14 EDT on 05/05/2026 under Order No. 20240043203 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ - 2010, Performance Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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AIA® Document A312® – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
Village of Hammondsport
18 Water Street
Hammondsport, NY 14840

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)
Amount: $

Modifications to this Bond:		None		See Section 18

Company: *(Corporate seal)*

Company: *(Corporate seal)*

CONTRACTOR AS PRINCIPAL *(Signature)*

SURETY *(Signature)*

(Printed name and title)

(Printed name and title)

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

ADDITIONS AND DELETIONS:
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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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AGENT or **BROKER:**	**OWNER'S REPRESENTATIVE:** *(Architect, Engineer or other party:)*

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant

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under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- **.1** the name of the Claimant;
- **.2** the name of the person for whom the labor was done, or materials or equipment furnished;
- **.3** a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- **.4** a brief description of the labor, materials or equipment furnished;
- **.5** the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- **.6** the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- **.7** the total amount of previous payments received by the Claimant; and
- **.8** the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

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§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

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Changes to original AIA text

PAGE 1

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
–Village of Hammondsport
18 Water Street
Hammondsport, NY 14840

CONSTRUCTION CONTRACT
Date:
Amount: $
Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)
Amount: $

Modifications to this Bond:		None		See Section 18

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AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

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Variable Information

There are no variables which have been provided

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:52:38 EDT on 05/05/2026 under Order No. 20240043203 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ - 2010, Payment Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)

PRODUCER	THIS CERTIFICATE ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
	INSURERS AFFORDING COVERAGE
INSURED	INSURER A:
	INSURER B:
	INSURER C:
	INSURER D:
	INSURER E:

COVERAGES

THE POLICES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INS LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXP DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☐ OCCUR ☐ _____ ☐ _____ GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PROJECT ☐ LOC				EACH OCCURRENCE	$
					FIRE DAMAGE (any 1 fire)	$
					MED EXP (any 1 person)	$
					PERSONAL & ADV INJURY	$
					GENERAL AGGREGATE	$
					PRODUCTS – COMP/OP AGG	$
	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ☒ NON OWNED AUTOS ☐ _____ ☐ _____				COMBINED SINGLE LIMIT (Ea Accident)	
					BODILY INJURY (per person)	$
					BODILY INJURY (per accident)	$
					PROPERTY DAMAGE (Per accident)	$
	GARAGE LIABILITY ☐ ANY AUTO ☐ _____				AUTO ONLY – EA ACCIDENT	$
					OTHER THAN AUTO ONLY: EA ACC	$
					OTHER THAN AUTO ONLY: AGG	$
	EXCESS LIABILITY ☐ OCCUR ☐ CLAIMS MADE ☐ DEDUCTIBLE ☐ RETENTION $_____				EACH OCCURRENCE	$
					AGGREGATE	$
						$
						$
						$
	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY				☐ WC Statutory Limits ☐ Other	
					E.L. EACH ACCIDENT	$
					E.L. DISEASE –EA EMPLOYEE	$
					E.L. DISEASE –POLICY LIMIT	$
					•	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS:

•

CERTIFICATE HOLDER [N] **ADDITIONAL INSURED; INSURER LETTER: _____** **CANCELLATION**

	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KINDUPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.
	AUTHORIZED REPRESENTATIVE

SAMPLE

AIA® Document G715™ – 2017

Supplemental Attachment for ACORD Certificate of Insurance 25

PROJECT: *(name and address)* 1130-010 - Village of Hammondsport - DPW Building 18 Water Street Hammondsport, NY 14840	**CONTRACT INFORMATION:** Contract For: Date: 05-05-2026	**CERTIFICATE INFORMATION:** Producer: Insured: Date:
OWNER: *(name and address)* Village of Hammondsport 18 Water Street Hammondsport, NY 14840	**ARCHITECT:** *(name and address)* Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC Airport Corporate Park Horseheads, NY 14845	**CONTRACTOR:** *(name and address)*

		Yes	No	N/A
A.	**General Liability**			
1.	Does this policy include coverage for:			
a	Damages because of bodily injury, sickness, or disease, including occupational sickness or disease, and death of any person?	[ ]	[ ]	[ ]
b	Personal injury and advertising injury?	[ ]	[ ]	[ ]
c	Damages because of physical damage to or destruction of tangible property, including the loss of use of such property?	[ ]	[ ]	[ ]
d	Bodily injury or property damage arising out of completed operations?	[ ]	[ ]	[ ]
e	The Contractor's indemnity obligations included in the Contract Documents?	[ ]	[ ]	[ ]
2.	Does this policy contain an exclusion or restriction of coverage for:			
a	Claims by one insured against another insured, where the exclusion or restrictions is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim?	[ ]	[ ]	[ ]
b	Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor?	[ ]	[ ]	[ ]
c	Claims for bodily injury other than to employees of the insured?	[ ]	[ ]	[ ]
d	Claims for the Contractor's indemnity obligations included in the Contract Documents arising out of injury to employees of the insured?	[ ]	[ ]	[ ]
e	Claims for loss excluded under a prior work endorsement or other similar exclusionary language?	[ ]	[ ]	[ ]
f	Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language?	[ ]	[ ]	[ ]
g	Claims related to residential, multi-family, or other habitational projects?	[ ]	[ ]	[ ]
h	Claims related to roofing?	[ ]	[ ]	[ ]
i	Claims related to exterior insulation finish systems, synthetic stucco, or similar exterior coatings or surfaces?	[ ]	[ ]	[ ]
j	Claims related to earth subsistence or movement?	[ ]	[ ]	[ ]
k	Claims related to explosion, collapse, and underground hazards?	[ ]	[ ]	[ ]

		Yes	No	N/A
B.	**Other Insurance Coverage**			
1.	Indicate whether the Contractor has the following insurance coverages and, if so, indicate the coverage limits for each.			
a	Professional liability insurance Coverage limits:	[ ]	[ ]	[ ]
b	Pollution liability insurance	[ ]	[ ]	[ ]

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	Coverage limits:			
c	Insurance for maritime liability risks associated with the operation of a vessel	[ ]	[ ]	[ ]
	Coverage limits:			
d	Insurance for the use or operation of manned or unmanned aircraft	[ ]	[ ]	[ ]
	Coverage limits:			
e	Property insurance	[ ]	[ ]	[ ]
	Coverage limits:			
f	Railroad protective liability insurance	[ ]	[ ]	[ ]
	Coverage limits:			
g	Asbestos abatement liability insurance	[ ]	[ ]	[ ]
	Coverage limits:			
h	Insurance for physical damage to property while it is in storage and in transit to the construction site	[ ]	[ ]	[ ]
	Coverage limits:			
i	Other:	[ ]	[ ]	[ ]

_____

(Signature)

_____

(Printed name and title)

_____

Date

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AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

1130-010 - Village of Hammondsport - DPW Building
18 Water Street
Hammondsport, NY 14840

THE OWNER:
(Name, legal status and address)

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

THE ARCHITECT:
(Name, legal status and address)

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC

Airport Corporate Park
Horseheads, NY 14845

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™–2017, Guide for Supplementary Conditions.

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14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is

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otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.4.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. The Agreement.

2. Addenda, with those of later date having precedence over those of earlier date.

3. Supplementary Conditions.

4. The General Conditions of the Contract for Construction.

5. Drawings and Specifications.

In case of an inconsistency between Drawings and Specifications or within other Documents not clarified by addendum the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation. The Architect's determination shall be final.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

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The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

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§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

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§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 Whenever the Drawings show existing or other construction not required as part of the Contract Work, it is understood that it is so shown as a matter of information and that the Owner, and Architect, while believing such information to be substantially correct, assumes no responsibility thereof.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 Where equipment lines, piping, conduit or any other systems are shown diagrammatically, the Contractor shall be responsible for the coordination and orderly arrangement of the various lines of piping, conduit, etc. included in the Work of its Contract. It shall coordinate the work of its Subcontractors and prevent all interferences between equipment, lines of piping, architectural features, etc. and avoid any

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unsightly arrangements in Work whether exposed or concealed. In the event there are other separate Contractors it shall also coordinate the Work of its Contract with the Work of any such separate Contractors.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.1.1 Contractor shall warrant that they have good title to all materials used by them as part of the Work of this Contract. No materials or supplies shall be purchased by Contractor or any of their Subcontractors that are subject to any chattel mortgage, conditional sale or other agreement by which an interest is retained by Seller.

§ 3.4.1.2 On receipt of signed Contract, or Letter of Intent to award contract, Contractor will be expected to place firm orders with vendors for needed materials in sufficient time to ensure delivery at such times as will ensure speedy and uninterrupted progress of the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.3.1 Persons whose work is unsatisfactory to the Owner or Architect, or who is reasonably considered by them to be unskilled or otherwise objectionable, may be immediately dismissed from the Project site upon notice to the Contractor. Any persons so dismissed shall be immediately replaced by the Contractor so as not to delay the progress of the Work.

§ 3.4.4 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified in the Project Specifications. The Architect will be allowed a reasonable time within which to evaluate each proposed substitution. The burden of proof regarding the merit of a substitution is on the Contractor. The Architect will be the sole judge of equivalence, and no substitute will be ordered, installed or utilized without the Architect's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. Owner may require Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute. The Architect will record time required by the Architect and the Architect's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not the Architect accepts a proposed substitute, Contractor shall reimburse Owner for the charges of the Architect and Architect's Consultants for evaluating each proposed substitute.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

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§ 3.5.2 **All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.**

§ 3.5.2.1 Any and all warranties provided herein shall be assignable to any person or entity that succeeds Owner in the ownership of the premises.

§ 3.5.3 The Contractor shall warrant all materials and operating systems to be free from any defects and faulty equipment for a minimum period of one (1) year from either (a) the date the Architect/Owner recommends final payment or (b) where the performance of materials, systems, or equipment is a condition of the Contract Documents, from the date the materials, systems or equipment performs satisfactorily and the Architect certifies the same in writing to the Owner, whichever is later.

§ 3.5.4 The Contractor shall obtain and furnish to the Architect written manufacturer's warranties for all major materials, systems and equipment. The terms of the warranty shall be as individually specified in the Contract Documents for the item; if no term is specified, the terms shall be a minimum of one year, but not less than the standard period of the manufacturer's warranty for the item.

§ 3.5.5 All warranties upon any Work, labor, materials, or equipment by any subcontractor or supplier of Contractor shall be deemed made by Contractor to Owner. All factory and manufacturers' warranties shall be assigned by Contractor to Owner and all such warranty documents shall be delivered by Contractor to Owner prior to final payment by Owner hereunder; provided, however, that no such assignment of factory or manufacturers' warranties shall release or relieve Contractor from any of its warranty obligations or liability hereunder. The provisions of this subparagraph shall survive Owner's final acceptance of the Project. Contractor shall obtain the manufacturer's warranty for the plumbing, electrical, HVAC and roof systems and components and for all structural components for the longest period available, and shall obtain consent to the assignment of the same to Owner; provided, however, if such extended warranty exceeds that required by the Contract Documents, Contractor shall notify Owner thereof and of any additional cost for such extended warranty and if Owner elects to obtain such extended warranty, such excess cost shall be paid by Owner. Contractor covenants to perform the Work in such a manner as to preserve any and all such warranties.

§ 3.5.6 Neither final payment nor any provision in the Contract Documents nor partial or entire occupancy of premises by Owner shall constitute an acceptance of work not done in accordance with Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

§ 3.5.7 Upon written notice from Architect, Contractor shall remedy any defects in the Work, and pay for any damage to other Work resulting therefrom, which shall appear within a period of one (1) year, unless longer period is specified, from date of final payment for completed Work, or acceptance of any major portion of building. It is understood that Owner will notify Architect of observed defects with reasonable promptness. Notwithstanding anything to the contrary herein contained, it is understood and agreed that the foregoing warranty shall not affect, limit or impair Owner's rights against Contractor with regard to latent defects in the Work which do not appear within the applicable warranty period and which could not, by the exercise of reasonable care and due diligence, be ascertained or discovered by Owner within such warranty period provided that all claims for latent defects shall be asserted within five (5) years after Substantial Completion. Contractor shall be and remain liable and responsible to correct and cure any such latent defects which are reported to Contractor by Owner in writing within ninety (90) days after any such latent defects first appear or could, by the exercise of reasonable care and due diligence, be ascertained or discovered by Owner. Notwithstanding anything to the contrary, if Contractor fails to promptly commence and diligently perform and complete all corrective Work required hereunder, Owner shall have the right (but not the obligation) in each instance, at Owner's election, to cause such corrective Work to be done by others and recover the costs thereof, together with damages and reasonable attorneys' fees, from Contractor, in addition to all other rights and remedies available to Owner against Contractor hereunder and at law and in equity for such default by Contractor.

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§ 3.5.8 Should the Contractor be required to correct any defects or damage, under the provisions of this Article, it further agrees to make good, without cost to the Owner, and subsequent defects in the work or materials furnished or built; by them, or damage due to faulty workmanship or materials in the work furnished or built by them, which occur within a one-year period after the original defect or damage is corrected or replaced, but such additional warranty shall apply only to the actual facility, material or structure initially found to be defective or damaged.

§ 3.5.9 All related components of the work under this Contract not showing defects or damage within one year of the Date of Substantial Completion shall be exempt from the additional warranty, except that the original warranty on a related component shall be extended for a period of time corresponding to the period of non-use of such component if it cannot be used due to the condition of the defective work, and/or due to the repair or replacement of such work. When required by the Owner, the Contractor shall furnish a warranty bond in the amount of fifty percent (50%) of the full amount of the contract, or such lesser amount as the Owner may specify to cover the requirements of this paragraph, and such bond, if required, shall be posted by the Contractor prior to the expiration of the One Year Warranty Period.

§ 3.5.10 In emergencies occurring during the warranty period, the Owner may correct any defect immediately and charge the cost to the Contractor. The Owner shall at once notify the Contractor, who may take over the Work and make any corrections remaining after its forces arrive at the Work. Repair work not started within seven days following notice to the Contractor of any defect may be considered an emergency.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.6.1 The Owner is exempt from payment of FEDERAL, STATE, LOCAL, TAXES, and from payment of SALES AND COMPENSATING USE TAXES of the State of New York and of Cities and Counties on all materials and supplies sold to the Owner pursuant to the provisions of this Contract. These taxes are not to be included in bids. This exemption does not, however, apply to tools, machinery, equipment, or other property leased by, or to the Contractor or a subcontractor; and the Contractor and its subcontractor shall be responsible for, and pay, any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work, except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Architect shall be responsible for monitoring Contractor's compliance with any Laws or Regulation.

§ 3.7.2.1 Owner will not be responsible for contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

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If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, labor and installation costs, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the site, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- **.3** whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without prior written notification to the Architect and Owner at least 30 days prior to the proposed date of change, and without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

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§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has

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been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.8.1 Or-equal: If in Architect's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Architect as an "or-equal" item, in which case review and approval of the proposed item may, in Architect's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

§ 3.12.8.2 Substitute Items: If in Architect's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under subparagraph 3.12.8.1, it will be considered a proposed substitute item. Contractor shall submit sufficient information as provided below to allow Architect to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute thereof. The procedure for review by the Architect will include the following as supplemented in the General Requirements,

and as Architect may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by Architect from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall first make written application to Architect for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by Architect in evaluating the proposed substitute. Architect may require Contractor to furnish additional data about the proposed substitute.

§ 3.12.8.3 Contractor's Expense: All data to be provided by Contractor in support of any proposed "or-equal" or substitute item will be at Contractor's expense.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, licensed in the State in which the project is located, whose signature and seal shall appear on all

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drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.12.11 The review of the shop drawings, product data and samples is an obligation of the Architect as described in subparagraph 4.2.7 of these General Conditions. The normal cost of the Architect's review is included in the Owner Architect Agreement. Normal cost is hereby defined as the cost necessary to perform the original review of each shop drawing, product data, or sample and the review of one resubmittal for providing incidental information not included in the initial submission. The cost of additional review(s) or a substantial resubmittal as compared to incidental information will be the responsibility of the Contractor and the Contractor shall reimburse the Owner for any such costs charged by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be

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responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Owner's consultants, Architect, Architect's consultants, and agents and employees of any of them from and against claims, suits, actions, debts, damages, fines, penalties, costs, losses, charges, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, suit, action, debt, damage, fine, penalty, cost, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused, in whole or in part by the negligent acts or omissions, fault or breach of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, agents, suppliers and/or materialmen or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.1.1 The Contractor agrees to include the following indemnity provision in each and every contract it enters into with a subcontractor, and to require that subcontractor to include such provision in each contract it enters into with any lower tier subcontractor: "To the fullest extent permitted by law, Subcontractor shall indemnify and hold harmless the Contractor, Owner, Owner's consultant's, Architect, Architect's consultants, and each of their respective representatives, employees, directors, officers, and agents, from and against any and all claims, suits, actions, debts, damages, fines, penalties, costs, charges and expenses, including attorneys' fees and court costs, arising out of, relating to or resulting from the performance of this Subcontract, including, but not limited to, bodily injury and/or property damage, to the extent caused, in whole or in part, by acts, actions, omissions, negligence, fault or breach of the Subcontractor, its employees, agents, subcontractors, suppliers and/or materialmen, regardless of whether or not such claim is caused in part by a party indemnified hereunder.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.19 Site Conditions Investigated

§ 3.19.1 The Contractor acknowledges it has satisfied itself as to the nature and location of the Work, the general and local conditions, particularly those bearing on transportation, disposal, handling and storage of materials, availability of labor, materials, equipment, utilities, roads, weather, ground water table, character of surface and subsurface materials and conditions, the facilities needed to prosecute the Work, and all other factors which in any way affect the Work or the cost thereof under this Contract. Any failure by the Contractor to acquaint itself with the available information concerning these conditions will not relieve it from the responsibility of successfully performing work.

§ 3.20 Existing Features and Underground Data

§ 3.20.1 The location of existing features shown on plans is intended for general information only. The Contractor, alone, is responsible for accurate determination of the location of all structures, and shall not be entitled to any extra payment due to any unforeseen difficulties or distances encountered in the Work.

§ 3.20.2 The locations, depths and data as to underground conditions have been obtained from records, surface indications and data furnished by others. The information furnished is solely for the convenience of the Contractor without any warranty, expressed or implied as to its accuracy or completeness. The Contractor shall make no claim against the Owner or Architect with respect to the accuracy or completeness of such information if it is erroneous, or if the conditions found at the time of construction are different from those as indicated.

§ 3.21 Construction Stresses

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§ 3.21.1 The Contractor shall be solely responsible for the conditions which develop during construction and in the event any structure is dislocated, over strained, or damaged so as to affect is usefulness, the Contractor shall be solely responsible. The Contractor shall take whatever steps necessary to strengthen, relocate or rebuild the structure to meet requirements.

§ 3.21.2 The Contractor is responsible for restoration and/or repair of utilities, private property, buildings, pavement, walkways, roads, etc. damaged by its activities under this Agreement.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor,

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Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- **.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

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ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

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§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- **.4** As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- **.1** Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- **.2** Costs of materials, exclusive of drill bits, saw blades, manual and power hand tools, whether incorporated or consumed; and exclusive of trucking and delivery costs including drivers' time;
- **.3** Rental costs of heavy machinery and equipment, exclusive of manual and power hand tools, whether rented from the Contractor or others; Cost shall not be allowed in excess of usual rentals charged in area for similar equipment of like size and condition, including costs of necessary supplies and repairs for operating equipment on site in connection with other work unless its use incurs actual and additional costs to Contractor. If equipment not on site is required for change in work only, cost of transporting equipment to and from site will be allowed.
- **.4** Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- **.5** Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

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§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 If any material previously required is omitted by written order of the Owner after it has been delivered to, or partially worked on by the Contractor, and consequently will not retain its full value for other uses, Contractor shall be allowed actual cost of omitted material, less fair market value of material, as determined by Architect.

.1 For the Contractor, for Work performed by the Contractor's own forces, maximum 15 percent of the direct cost;

.2 For the Contractor, for Work performed by the Contractor's Subcontractor, maximum 7 percent of the amount due the Subcontractor;

.3 For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, maximum 15 percent of the direct cost;

.4 For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors, maximum 5 percent of the amount due the Sub-subcontractor;

.5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.8;

.6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials, and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also.

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§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work and to complete the Work so that it is ready for Final payment as evidenced by the Architect.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 In no case shall the Contractor delay the progress of the Work, or any part thereof, in response to changes in the Work or disputes caused by proposed or ordered changes in the Work, or any disputes or disagreements as to equitable value of the changes.

§ 8.2.5 If the Contractor does not achieve Substantial Completion within the Contract Time, the Contractor shall reimburse the Owner for all payments made to the Architect for services rendered by them required as a result of such failure by the Contractor.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

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§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Until Substantial Completion, the Owner shall pay ninety-five percent (95%) of the amount due the Contractor on account of progress payments.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.2.1 Procedures required by Owner shall include, but are not necessarily limited to, submission by the Contractor to the Architect of bills of sale and bills of lading for such materials and equipment, provision of opportunity for Architect's visual verification that such materials and equipment are in fact in storage, and, if stored off-site, submission by the Contractor of verification that such materials and equipment are stored in a bonded warehouse.

§ 9.3.2.2 All such materials and equipment, including materials and equipment stored on-site but not yet incorporated into the Work, upon which partial payments have been made shall become the property of the Owner, but the care and protection of such materials and equipment shall remain the responsibility of the Contractor until incorporation into the Work, including maintaining insurance coverage on a replacement cost basis without voluntary deductible.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons

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or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a Separate Contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

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§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work, or designated portion thereof, for its intended use.

§ 9.8.1.1 Substantial Completion shall not be deemed to exist until the Owner receives a Certificate of Occupancy for the Work (or such portion as elected by Owner), and the Contractor, Architect and Owner have agreed upon a schedule to provide the Owner with all as built drawings, operating manuals and warranties.

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§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Owner shall have the right to exclude Contractor from the Work after the date of Substantial Completion, but Owner shall allow Contractor reasonable access to complete or correct items on the tentative list.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. Architect will make a final inspection with the Owner and Contractor and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the

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Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.1.1 If the Architect is required to perform additional final inspections because the Work fails to comply with the certifications of the Contractor identified in the Contract Documents, the amount of compensation paid to the Architect by the Owner for additional services shall be deducted from the final payment to the Contractor.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees. Upon demand by the Owner, Contractor shall provide and file bond for discharge of any lien, as required by Lien Law, State of New York, Section 21, Paragraph 5.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. Owner reserves the right to demand such waiver in writing from Contractor as a condition precedent to making final payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;

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.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work

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in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, and one to which the Owner has no reasonable objection. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

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§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

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§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

§ 12.3.1 If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Architect's recommendation of final payment,) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Architect as to reasonableness). If any such acceptance occurs prior to Architect's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

§ 13.1.1 The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.1.2 Each and every provision required by law to be made a part of this Contract shall be deemed to be inserted
herein and the Contract shall be read and enforced as though all such provisions were included herein. Upon request
of either party, this Contract shall be physically amended to properly show each such provision found not inserted or
found incorrectly inserted.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall

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nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 Any materials to be furnished shall be subject to inspections and tests in the shop and field by the Architect. Shop inspection shall not relieve the Contractor of the responsibility to furnish satisfactory materials, and the right is reserved to reject any material at any time before final acceptance of the Work, when in the opinion of the Architect the materials and workmanship do not conform to the Specification requirements.

§ 13.4.8 Test specimens will be submitted to an independent laboratory designated by the Architect. Test data will be furnished to the Contractor by the Architect.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the

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place where the Project is located.

§ 13.6 CONTRACT DEEMED EXECUTORY

§ 13.6.1 The Contractor agrees that the Contract shall be deemed executory to the extent of the monies available and that no liability shall be incurred by the Owner beyond the monies available therefor. The Contractor is entitled to request of the Owner documentation sufficient to evidence appropriate financing of the Project.

§ 13.7 USE OR OCCUPANCY OF BUILDING BY OWNER

§ 13.7.1 Contractors shall cooperate with Owner in order to make portions of project available as soon as possible.

§ 13.7.2 Site and building, whether work of various Contractors is partially or fully completed or not, is property of Owner who shall have certain rights and privileges in connection with use of same, including the following:

.1 Should there be, in the opinion of the Architect, unwarranted delay on the part of any Contractor in completion of incomplete or defective Work or other Contract requirements, and Architect so certifies, Owner may have full or partial use and occupancy of any or all portions of buildings as required for moving in or installing furniture, fixtures, supplies, or equipment and for general cleaning and maintenance work. In such event, Contractor whose unfinished Work is performed subsequent to installation of furniture, fixtures, equipment, etc., shall be responsible for the prevention of any damage to such installation. Such use or occupancy by Owner shall in no instance constitute acceptance of any portion of the Work.

§ 13.8 MINIMUM RATE OF WAGE AND SUPPLEMENT

§ 13.8.1 The minimum hourly wage rates (including supplements) to be paid shall not be less than that designated by the New York State Department of Labor, Bureau of Public Works and any redetermination of the prevailing rate of wages after the Contract is approved shall be deemed to be incorporated herein by reference as of the effective date of redetermination and shall form a part of these Contract Documents.

§ 13.9 Assignment of Public Contracts

§ 13.9.1 As provided in Section 109 of the General Municipal Law, the Contractor is prohibited from assigning,

transferring, conveying, subletting or otherwise disposing of the Contract, or of Contractors right title, or interest

therein, or his power to execute such contract to any other person or corporation without the previous consent in

writing of the officer, board or agency awarding the contract.

§ 13.9.2 If any contractor, to whom any contract is let, granted and awarded, as required by law, by any officer, board

or agency in a political subdivision, or of any district therein, shall without the previous written consent specified

herein, assign, transfer, convey, sublet or otherwise dispose of such contract, or his right, title or interest therein, or his

power to execute such contract, to any other person or corporation, the officer, board or agency which let, made,

granted, or awarded such contract shall revoke and annul such contract, and the political subdivision or district therein,

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as the case may be, and such officer, board or agency shall be relieved and discharged form any and all liability and
obligations growing out of such contract to such contractor, and to the person or corporation to which such contract
shall have been assigned, transferred, conveyed, sublet or otherwise disposed of, and such contractor, and his
assignees, transferees or sublessees shall forfeit and lose all moneys, theretofore earned under such contract, except so
much as may be required to pay his employees. The provisions of this section shall not hinder, prevent, or affect an
assignment by any such contractor for the benefit of his creditors made pursuant to the laws of this state.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit , and costs incurred by reason of such termination; but Contractor shall make no Claim nor seek to recover overhead, lost anticipated profit or damages in contract for Work not performed by Contractor.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

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§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

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The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.3.3 All written claims for damages or extra work shall include time of occurrence, location and other identifying factors and shall be supported if so required by Architect, by letters, journals, or diaries, instructions, vouchers, or other pertinent or applicable records.

§ 15.1.3.4 Owner shall not be liable to any Contractor or Subcontractor for damages caused by any breach of Contract, delay in performance or other act of neglect by other Contractors or Subcontractors having Contracts for performance of any portion of work.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- **.1** damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- **.2** damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

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This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

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§ 15.3.1 The parties hereto at the time any claim or dispute arises between them may, in their sole personal discretion, agree to submit the same to non-bonding mediation upon such terms and conditions as may be agreed at the time; but the decision to do so must be unanimous between them and must be in writing in advance thereof. The request for mediation is not to be deemed a condition precedent to any other right or remedy of the aggrieved party, all of which rights and remedies are expressly reserved by the parties.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose

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presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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Additions and Deletions Report for
AIA® Document A201® – 2017

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Changes to original AIA text

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§ 1.4.1 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. The Agreement.

2. Addenda, with those of later date having precedence over those of earlier date.

3. Supplementary Conditions.

4. The General Conditions of the Contract for Construction.

5. Drawings and Specifications.

In case of an inconsistency between Drawings and Specifications or within other Documents not clarified by addendum the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation. The Architect's determination shall be final.

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The parties shall agree upon ~~written~~ protocols governing the transmission and use ~~of, and reliance on,~~ of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

Any use of, or reliance on, all or a portion of a building information model without agreement to ~~written~~ protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

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§ 3.2.5 Whenever the Drawings show existing or other construction not required as part of the Contract Work, it is understood that it is so shown as a matter of information and that the Owner, and Architect, while believing such information to be substantially correct, assumes no responsibility thereof.

§ 3.3.4 Where equipment lines, piping, conduit or any other systems are shown diagrammatically, the Contractor shall be responsible for the coordination and orderly arrangement of the various lines of piping, conduit, etc. included in the Work of its Contract. It shall coordinate the work of its Subcontractors and prevent all interferences between equipment, lines of piping, architectural features, etc. and avoid any unsightly arrangements in Work whether exposed or concealed. In the event there are other separate Contractors it shall also coordinate the Work of its Contract with the Work of any such separate Contractors.

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§ 3.4.1.1 Contractor shall warrant that they have good title to all materials used by them as part of the Work of this Contract. No materials or supplies shall be purchased by Contractor or any of their Subcontractors that are subject to any chattel mortgage, conditional sale or other agreement by which an interest is retained by Seller.

§ 3.4.1.2 On receipt of signed Contract, or Letter of Intent to award contract, Contractor will be expected to place firm orders with vendors for needed materials in sufficient time to ensure delivery at such times as will ensure speedy and uninterrupted progress of the Work.

§ 3.4.3.1 Persons whose work is unsatisfactory to the Owner or Architect, or who is reasonably considered by them to be unskilled or otherwise objectionable, may be immediately dismissed from the Project site upon notice to the Contractor. Any persons so dismissed shall be immediately replaced by the Contractor so as not to delay the progress of the Work.

§ 3.4.4 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified in the Project Specifications. The Architect will be allowed a reasonable time within which to evaluate each proposed substitution. The burden of proof regarding the merit of a substitution is on the Contractor. The Architect will be the sole judge of equivalence, and no substitute will be ordered, installed or utilized without the Architect's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. Owner may require Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute. The Architect will record time required by the Architect and the Architect's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not the Architect accepts a proposed substitute, Contractor shall reimburse Owner for the charges of the Architect and Architect's Consultants for evaluating each proposed substitute.

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§ 3.5.2.1 Any and all warranties provided herein shall be assignable to any person or entity that succeeds Owner in the ownership of the premises.

§ 3.5.3 The Contractor shall warrant all materials and operating systems to be free from any defects and faulty equipment for a minimum period of one (1) year from either (a) the date the Architect/Owner recommends final payment or (b) where the performance of materials, systems, or equipment is a condition

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of the Contract Documents, from the date the materials, systems or equipment performs satisfactorily and the Architect certifies the same in writing to the Owner, whichever is later.

§ 3.5.4 The Contractor shall obtain and furnish to the Architect written manufacturer's warranties for all major materials, systems and equipment. The terms of the warranty shall be as individually specified in the Contract Documents for the item; if no term is specified, the terms shall be a minimum of one year, but not less than the standard period of the manufacturer's warranty for the item.

§ 3.5.5 All warranties upon any Work, labor, materials, or equipment by any subcontractor or supplier of Contractor shall be deemed made by Contractor to Owner. All factory and manufacturers' warranties shall be assigned by Contractor to Owner and all such warranty documents shall be delivered by Contractor to Owner prior to final payment by Owner hereunder; provided, however, that no such assignment of factory or manufacturers' warranties shall release or relieve Contractor from any of its warranty obligations or liability hereunder. The provisions of this subparagraph shall survive Owner's final acceptance of the Project. Contractor shall obtain the manufacturer's warranty for the plumbing, electrical, HVAC and roof systems and components and for all structural components for the longest period available, and shall obtain consent to the assignment of the same to Owner; provided, however, if such extended warranty exceeds that required by the Contract Documents, Contractor shall notify Owner thereof and of any additional cost for such extended warranty and if Owner elects to obtain such extended warranty, such excess cost shall be paid by Owner. Contractor covenants to perform the Work in such a manner as to preserve any and all such warranties.

§ 3.5.6 Neither final payment nor any provision in the Contract Documents nor partial or entire occupancy of premises by Owner shall constitute an acceptance of work not done in accordance with Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

§ 3.5.7 Upon written notice from Architect, Contractor shall remedy any defects in the Work, and pay for any damage to other Work resulting therefrom, which shall appear within a period of one (1) year, unless longer period is specified, from date of final payment for completed Work, or acceptance of any major portion of building. It is understood that Owner will notify Architect of observed defects with reasonable promptness. Notwithstanding anything to the contrary herein contained, it is understood and agreed that the foregoing warranty shall not affect, limit or impair Owner's rights against Contractor with regard to latent defects in the Work which do not appear within the applicable warranty period and which could not, by the exercise of reasonable care and due diligence, be ascertained or discovered by Owner within such warranty period provided that all claims for latent defects shall be asserted within five (5) years after Substantial Completion. Contractor shall be and remain liable and responsible to correct and cure any such latent defects which are reported to Contractor by Owner in writing within ninety (90) days after any such latent defects first appear or could, by the exercise of reasonable care and due diligence, be ascertained or discovered by Owner. Notwithstanding anything to the contrary, if Contractor fails to promptly commence and diligently perform and complete all corrective Work required hereunder, Owner shall have the right (but not the obligation) in each instance, at Owner's election, to cause such corrective Work to be done by others and recover the costs thereof, together with damages and reasonable attorneys' fees, from Contractor, in addition to all other rights and remedies available to Owner against Contractor hereunder and at law and in equity for such default by Contractor.

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§ 3.5.8 Should the Contractor be required to correct any defects or damage, under the provisions of this Article, it further agrees to make good, without cost to the Owner, and subsequent defects in the work or materials furnished or built; by them, or damage due to faulty workmanship or materials in the work furnished or built by them, which occur within a one-year period after the original defect or damage is corrected or replaced, but such additional warranty shall apply only to the actual facility, material or structure initially found to be defective or damaged.

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§ 3.5.9 All related components of the work under this Contract not showing defects or damage within one year of the Date of Substantial Completion shall be exempt from the additional warranty, except that the original warranty on a related component shall be extended for a period of time corresponding to the period of non-use of such component if it cannot be used due to the condition of the defective work, and/or due to the repair or replacement of such work. When required by the Owner, the Contractor shall furnish a warranty bond in the amount of fifty percent (50%) of the full amount of the contract, or such lesser amount as the Owner may specify to cover the requirements of this paragraph, and such bond, if required, shall be posted by the Contractor prior to the expiration of the One Year Warranty Period.

§ 3.5.10 In emergencies occurring during the warranty period, the Owner may correct any defect immediately and charge the cost to the Contractor. The Owner shall at once notify the Contractor, who may take over the Work and make any corrections remaining after its forces arrive at the Work. Repair work not started within seven days following notice to the Contractor of any defect may be considered an emergency.

§ 3.6.1 The Owner is exempt from payment of FEDERAL, STATE, LOCAL, TAXES, and from payment of SALES AND COMPENSATING USE TAXES of the State of New York and of Cities and Counties on all materials and supplies sold to the Owner pursuant to the provisions of this Contract. These taxes are not to be included in bids. This exemption does not, however, apply to tools, machinery, equipment, or other property leased by, or to the Contractor or a subcontractor; and the Contractor and its subcontractor shall be responsible for, and pay, any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property.

~~**§ 3.7.2**~~

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the ~~Work.~~Work, except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Architect shall be responsible for monitoring Contractor's compliance with any Laws or Regulation.

§ 3.7.2.1 Owner will not be responsible for contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

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.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, labor and installation costs, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, ~~labor, installation costs,~~ overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without prior written notification to the Architect and Owner at least 30 days prior to the proposed date of change, and without the Owner's consent, which shall not unreasonably be withheld or delayed.

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§ 3.12.8.1 Or-equal: If in Architect's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work

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will be required, it may be considered by Architect as an "or-equal" item, in which case review and approval of the proposed item may, in Architect's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

§ 3.12.8.2 Substitute Items: If in Architect's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under subparagraph 3.12.8.1, it will be considered a proposed substitute item. Contractor shall submit sufficient information as provided below to allow Architect to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute thereof. The procedure for review by the Architect will include the following as supplemented in the General Requirements,

and as Architect may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by Architect from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall first make written application to Architect for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by Architect in evaluating the proposed substitute. Architect may require Contractor to furnish additional data about the proposed substitute.

§ 3.12.8.3 Contractor's Expense: All data to be provided by Contractor in support of any proposed "or-equal" or substitute item will be at Contractor's expense.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, licensed in the State in which the project is located, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

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§ 3.12.11 The review of the shop drawings, product data and samples is an obligation of the Architect as described in subparagraph 4.2.7 of these General Conditions. The normal cost of the Architect's review is included in the Owner Architect Agreement. Normal cost is hereby defined as the cost necessary to perform the original review of each shop drawing, product data, or sample and the review of one resubmittal for providing incidental information not included in the initial submission. The cost of additional review(s) or a substantial resubmittal as compared to incidental information will be the responsibility of the Contractor and the Contractor shall reimburse the Owner for

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any such costs charged by the Architect.

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§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Owner's consultants, Architect, Architect's consultants, and agents and employees of any of them from and against claims, suits, actions, debts, damages, fines, penalties, costs, losses, charges, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, suit, action, debt, damage, fine, penalty, cost, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent ~~caused~~ caused, in whole or in part by the negligent acts or ~~omissions~~ omissions, fault or breach of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, agents, suppliers and/or materialmen or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.1.1 The Contractor agrees to include the following indemnity provision in each and every contract it enters into with a subcontractor, and to require that subcontractor to include such provision in each contract it enters into with any lower tier subcontractor: "To the fullest extent permitted by law, Subcontractor shall indemnify and hold harmless the Contractor, Owner, Owner's consultant's, Architect, Architect's consultants, and each of their respective representatives, employees, directors, officers, and agents, from and against any and all claims, suits, actions, debts, damages, fines, penalties, costs, charges and expenses, including attorneys' fees and court costs, arising out of, relating to or resulting from the performance of this Subcontract, including, but not limited to, bodily injury and/or property damage, to the extent caused, in whole or in part, by acts, actions, omissions, negligence, fault or breach of the Subcontractor, its employees, agents, subcontractors, suppliers and/or materialmen, regardless of whether or not such claim is caused in part by a party indemnified hereunder.

§ 3.19 Site Conditions Investigated

§ 3.19.1 The Contractor acknowledges it has satisfied itself as to the nature and location of the Work, the general and local conditions, particularly those bearing on transportation, disposal, handling and storage of materials, availability of labor, materials, equipment, utilities, roads, weather, ground water table, character of surface and subsurface materials and conditions, the facilities needed to prosecute the Work, and all other factors which in any way affect the Work or the cost thereof under this Contract. Any failure by the Contractor to acquaint itself with the available information concerning these conditions will not relieve it from the responsibility of successfully performing work.

§ 3.20 Existing Features and Underground Data

§ 3.20.1 The location of existing features shown on plans is intended for general information only. The Contractor, alone, is responsible for accurate determination of the location of all structures, and shall not be entitled to any extra payment due to any unforeseen difficulties or distances encountered in the Work.

§ 3.20.2 The locations, depths and data as to underground conditions have been obtained from records, surface indications and data furnished by others. The information furnished is solely for the convenience of the Contractor without any warranty, expressed or implied as to its accuracy or completeness. The Contractor shall make no claim against the Owner or Architect with respect to the accuracy or completeness of such information if it is erroneous, or if the conditions found at the time of construction are different from those as indicated.

§ 3.21 Construction Stresses

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§ 3.21.1 The Contractor shall be solely responsible for the conditions which develop during construction and in the event any structure is dislocated, over strained, or damaged so as to affect is usefulness, the Contractor shall be solely responsible. The Contractor shall take whatever steps necessary to strengthen, relocate or rebuild the structure to meet requirements.

§ 3.21.2 The Contractor is responsible for restoration and/or repair of utilities, private property, buildings, pavement, walkways, roads, etc. damaged by its activities under this Agreement.

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.2 Costs of materials, ~~supplies, and equipment, including cost of transportation, whether incorporated or consumed;~~exclusive of drill bits, saw blades, manual and power hand tools, whether incorporated or consumed; and exclusive of trucking and delivery costs including drivers' time;

.3 Rental costs of heavy machinery and equipment, exclusive of manual and power hand tools, whether rented from the Contractor or others; Cost shall not be allowed in excess of usual rentals charged in area for similar equipment of like size and condition, including costs of necessary supplies and repairs for operating equipment on site in connection with other work unless its use incurs actual and additional costs to Contractor. If equipment not on site is required for change in work only, cost of transporting equipment to and from site will be allowed.

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§ 7.3.11 If any material previously required is omitted by written order of the Owner after it has been delivered to, or partially worked on by the Contractor, and consequently will not retain its full value for other uses, Contractor shall be allowed actual cost of omitted material, less fair market value of material, as determined by Architect.

.1 For the Contractor, for Work performed by the Contractor's own forces, maximum 15 percent of the direct cost;

.2 For the Contractor, for Work performed by the Contractor's Subcontractor, maximum 7 percent of the amount due the Subcontractor;

.3 For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, maximum 15 percent of the direct cost;

.4 For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors, maximum 5 percent of the amount due the Sub-subcontractor;

.5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.8;

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.6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials, and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also.

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§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the ~~Work.~~Work and to complete the Work so that it is ready for Final payment as evidenced by the Architect.

§ 8.2.4 In no case shall the Contractor delay the progress of the Work, or any part thereof, in response to changes in the Work or disputes caused by proposed or ordered changes in the Work, or any disputes or disagreements as to equitable value of the changes.

§ 8.2.5 If the Contractor does not achieve Substantial Completion within the Contract Time, the Contractor shall reimburse the Owner for all payments made to the Architect for services rendered by them required as a result of such failure by the Contractor.

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§ 9.3.1.3 Until Substantial Completion, the Owner shall pay ninety-five percent (95%) of the amount due the Contractor on account of progress payments.

§ 9.3.2.1 Procedures required by Owner shall include, but are not necessarily limited to, submission by the Contractor to the Architect of bills of sale and bills of lading for such materials and equipment, provision of opportunity for Architect's visual verification that such materials and equipment are in fact in storage, and, if stored off-site, submission by the Contractor of verification that such materials and equipment are stored in a bonded warehouse.

§ 9.3.2.2 All such materials and equipment, including materials and equipment stored on-site but not yet incorporated into the Work, upon which partial payments have been made shall become the property of the Owner, but the care and protection of such materials and equipment shall remain the responsibility of the Contractor until incorporation into the Work, including maintaining insurance coverage on a replacement cost basis without voluntary deductible.

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§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the ~~Work~~ Work, or designated portion thereof, for its intended use.

§ 9.8.1.1 Substantial Completion shall not be deemed to exist until the Owner receives a Certificate of Occupancy for the Work (or such portion as elected by Owner), and the Contractor, Architect and Owner have agreed upon a schedule to provide the Owner with all as built drawings, operating manuals and warranties.

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§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract ~~Documents.~~Documents. Owner shall have the right to exclude Contractor from the Work after the date of Substantial Completion, but Owner shall allow Contractor reasonable access to complete or correct items on the tentative list.

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. Architect will make a final inspection with the Owner and Contractor and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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§ 9.10.1.1 If the Architect is required to perform additional final inspections because the Work fails to comply with the certifications of the Contractor identified in the Contract Documents, the amount of compensation paid to the Architect by the Owner for additional services shall be deducted from the final payment to the Contractor.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' ~~fees.~~fees. Upon demand by the Owner, Contractor shall provide and file bond for discharge of any lien, as required by Lien Law, State of New York, Section 21, Paragraph 5.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. Owner reserves the right to demand such waiver in writing from Contractor as a condition precedent to making final payment.

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§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or

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insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is ~~located.~~ located, and one to which the Owner has no reasonable objection. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

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§ 12.3.1 If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Architect's recommendation of final payment,) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Architect as to reasonableness). If any such acceptance occurs prior to Architect's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

~~§ 13.1~~ § 13.1 Governing Law

§ 13.1.1 The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.1.2 Each and every provision required by law to be made a part of this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though all such provisions were included herein. Upon request of either party, this Contract shall be physically amended to properly show each such provision found not inserted or found incorrectly inserted.

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§ 13.4.7 Any materials to be furnished shall be subject to inspections and tests in the shop and field by the Architect. Shop inspection shall not relieve the Contractor of the responsibility to furnish satisfactory materials, and the right is reserved to reject any material at any time before final acceptance of the Work, when in the opinion of the Architect the materials and workmanship do not conform to the Specification requirements.

§ 13.4.8 Test specimens will be submitted to an independent laboratory designated by the Architect. Test data will be furnished to the Contractor by the Architect.

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§ 13.6 CONTRACT DEEMED EXECUTORY

§ 13.6.1 The Contractor agrees that the Contract shall be deemed executory to the extent of the monies available and that no liability shall be incurred by the Owner beyond the monies available therefor. The Contractor is entitled to request of the Owner documentation sufficient to evidence appropriate financing of the Project.

§ 13.7 USE OR OCCUPANCY OF BUILDING BY OWNER

§ 13.7.1 Contractors shall cooperate with Owner in order to make portions of project available as soon as possible.

§ 13.7.2 Site and building, whether work of various Contractors is partially or fully completed or not, is property of Owner who shall have certain rights and privileges in connection with use of same, including the following:

.1 Should there be, in the opinion of the Architect, unwarranted delay on the part of any Contractor in completion of incomplete or defective Work or other Contract requirements, and Architect so certifies, Owner may have full or partial use and occupancy of any or all portions of buildings as required for moving in or installing furniture, fixtures, supplies, or equipment and for general cleaning and maintenance work. In such event, Contractor whose unfinished Work is performed subsequent to installation of furniture, fixtures, equipment, etc., shall be responsible for the prevention of any damage to such installation. Such use or occupancy by Owner shall in no instance constitute acceptance of any portion of the Work.

§ 13.8 MINIMUM RATE OF WAGE AND SUPPLEMENT

§ 13.8.1 The minimum hourly wage rates (including supplements) to be paid shall not be less than that designated by the New York State Department of Labor, Bureau of Public Works and any redetermination of the prevailing rate of wages after the Contract is approved shall be deemed to be incorporated herein by reference as of the effective date of redetermination and shall form a part of these Contract Documents.

§ 13.9 Assignment of Public Contracts

§ 13.9.1 As provided in Section 109 of the General Municipal Law, the Contractor is prohibited from assigning, transferring, conveying, subletting or otherwise disposing of the Contract, or of Contractors right title, or interest therein, or his power to execute such contract to any other person or corporation without the previous consent in writing of the officer, board or agency awarding the contract.

§ 13.9.2 If any contractor, to whom any contract is let, granted and awarded, as required by law, by any officer, board or agency in a political subdivision, or of any district therein, shall without the previous written consent specified herein, assign, transfer, convey, sublet or otherwise dispose of such contract, or his right, title or interest therein, or his power to execute such contract, to any other person or corporation, the officer, board or agency which let, made, granted, or awarded such contract shall revoke and annul such contract, and the political subdivision or district therein,

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as the case may be, and such officer, board or agency shall be relieved and discharged form any and all liability and

obligations growing out of such contract to such contractor, and to the person or corporation to which such contract

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shall have been assigned, transferred, conveyed, sublet or otherwise disposed of, and such contractor, and his

assignees, transferees or sublessees shall forfeit and lose all moneys, theretofore earned under such contract, except so

much as may be required to pay his employees. The provisions of this section shall not hinder, prevent, or affect an

assignment by any such contractor for the benefit of his creditors made pursuant to the laws of this state.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit ~~on Work not executed, ~~, and costs incurred by reason of such ~~termination.~~termination; but Contractor shall make no Claim nor seek to recover overhead, lost anticipated profit or damages in contract for Work not performed by Contractor.

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§ 15.1.3.3 All written claims for damages or extra work shall include time of occurrence, location and other identifying factors and shall be supported if so required by Architect, by letters, journals, or diaries, instructions, vouchers, or other pertinent or applicable records.

§ 15.1.3.4 Owner shall not be liable to any Contractor or Subcontractor for damages caused by any breach of Contract, delay in performance or other act of neglect by other Contractors or Subcontractors having Contracts for performance of any portion of work.

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§ 15.3.1 ~~Claims, disputes, **or** other matters **in** controversy arising out of or related **to the** Contract, except those waived **as** provided for in Sections 9.10.4, 9.10.5, **and** 15.1.7, shall **be** subject **to** mediation as **a condition precedent to** binding dispute resolution.~~**The parties hereto at the time any claim or dispute arises between them may, in their sole personal discretion, agree to submit the same to non-bonding mediation upon such terms and conditions as may be agreed at the time; but the decision to do so must be unanimous between them and must be in writing in advance thereof. The request for mediation is not to be deemed a condition precedent to any other right or remedy of the aggrieved party, all of which rights and remedies are expressly reserved by the parties.**

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Variable Information

PAGE 1

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1130-010 - Village of Hammondsport - DPW Building

18 Water Street
Hammondsport, NY 14840

Village of Hammondsport

18 Water Street
Hammondsport, NY 14840

Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC

Airport Corporate Park
Horseheads, NY 14845

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 11:56:15 EDT on 05/05/2026 under Order No. 20240043203 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ - 2017, General Conditions of the Contract for Construction, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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SECTION 00 73 43
WAGE RATE REQUIREMENTS

INTRODUCTION

1.1 PREVAILING WAGE RATES AND PAYROLL TRANSCRIPT RECORDS

A. Pusuant to Article 8, Section 220-I of the New York State Labor Law:
   1. No Contractor shall bid on a contract for public work unless such Contractor is registered and has obtained a Certificate of Registration from the New York State Department of Labor.
      a. A copy of the Certificate of Registration must be submitted with their bid. Applications for registration shall not be accepted as a substitute for a Certificate of Registration.
      b. Failure to submit Certificate of Registration with the bid will result in the rejection of the bid.
   2. Subcontractors must be registered prior to commencing any work on the project.

B. Contractors will be required to adhere to NYS DOL prevailing wage schedules in paying wages to employees. The prevailing wage schedules in effect at the time of the contract execution shall control.

C. The Contractor shall furnish payroll transcript records in accordance with Article 8, Section 220-J of the New York State Labor Law.

D. Pursuant to Section 220 (3-a) of the NYS Labor Law, the successful bidder to whom the Owner awards the contract, and any sub-contractor performing work under said contract, shall submit to the Owner a transcript of its original payroll records within thirty (30) days of the issuance of the contract, or within five (5) days of first entering the work site, whichever occurs first, and thereafter the contractor and subcontractor shall submit certified payroll records every thirty (30) days, until the contract expires or terminates. The filing of payrolls in a manner consistent with subdivision 3-9 is a condition precedent to payment of any sums due and owing to any person for work done on the project. Certified payroll records must also be submitted with invoices.

E. If the work to be performed by the successful bidder is located at a single location, the successful bidder and every subcontractor retained by the successful bidder shall post in a prominent and accessible place on the site where the work is performed a legible statement of all wage rates and supplements as specified in the bidder's contract with the Owner to be paid or provided, as the case may be, by the successful bidder or subcontractor for the various classes of mechanics, working men, or laborers, employed on the work. Such posted statement shall be written in plain English and titled, in lettering no smaller than two inches in height and two inches in width, with the phrase "Prevailing Rate of Wages". Such posted statement shall be constructed of materials capable of withstanding adverse weather conditions.

1.2 PREVAILING WAGE CASE NUMBER

A. A unique Prevailing Wage Case Number (PRC#) 2026007741 has been assigned to the schedule(s) for this project.
   1. The current Prevailing Wage Schedule for the project is attached following this section.

B. The current schedule(s) of the prevailing rates and prevailing hourly supplements for the project referenced above may be accessed at the New York State Department of Labor website at https://apps.labor.ny.gov/wpp/showFindProject.do?method=showIt. All changes or clarification of labor classification(s) and applicability of prevailing wage rates shall be obtained in writing from the Office of the Director, NYSDOL Bureau of Public Work.

1.3 WORKER NOTIFICATION

A. This provision is an addition to the existing prevailing wage rate law, Labor Law 220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the prevailing wage rate for their particular job classification on each pay stub*. It also requires contractors and subcontractors to post a notice at the beginning of the performance of every public work contract on each job site that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rage of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, many be downloaded from our website www.labor.ny.gov or made available upon request by contacting the Bureau of Public Work at 518-457-5589.
   1. * In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

1.4 EMPLOYEEE OSHA SAFETY TRAINING

A. Effective July 18th, 2008: If this be a contract for the construction, maintenance and/or repair of public work and the total cost of all work to be performed under the contract is at least two hundred fifty thousand dollars, then all laborers, workers, and mechanics employed in the performance of the contract either by contractor, sub-contractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be certified prior to performing any work on the project as having successfully completed a course in construction safety and health approved by the United States Department of Labor’s Occupational Safety and Health Administration that is at least ten hours in duration. (Labor Law Section 220-h).

1.5 ATTACHMENT

A. 00 73 43A - Prevailing Wage Rate Schedule for Article 8 Public Work Project.

END OF SECTION

Kathy Hochul, Governor

Roberta Reardon, Commissioner

Village of Hammondsport

Lisa Crance
Airport Corporate Park
100 Hunt Center
HORSEHEADS NY 14845

Schedule Year	2025 through 2026
Date Requested	03/19/2026
PRC#	2026007741

Location	Village of Hammondsport
Project ID#	1130-010
Project Type	Construction of a new DPW Building, all trades

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Rate Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2025 through June 2026. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Contractor Registry

Effective December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects, or private projects covered by Article 8 of the Labor Law, are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. To register, contractors and subcontractors must submit an application through NYSDOL's Contractor Registry portal which is available through the agency's Management System for Protecting Worker Rights (MPWR) https://mpwr-public.labor.ny.gov/en/login.

For additional information, please visit online.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website

www.labor.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemperaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment.Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Kathy Hochul, Governor

Roberta Reardon, Commissioner

Village of Hammondsport

Lisa Crance
Airport Corporate Park
100 Hunt Center
HORSEHEADS NY 14845

Schedule Year 2025 through 2026
Date Requested 03/19/2026
PRC# 2026007741

Location Village of Hammondsport
Project ID# 1130-010
Project Type Construction of a new DPW Building, all trades

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information
All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:
[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, https://dol.ny.gov/public-work-and-prevailing-wage
If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.ny.gov* or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

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1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

NEW YORK STATE OF OPPORTUNITY. Department of Labor

Required Notice under Article 25-B of the Labor Law

Attention All Employees, Contractors and Subcontractors: You are Covered by the Construction Industry Fair Play Act

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor**, you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

• **Civil Penalty**	First offense: Up to $2,500 per employee Subsequent offense(s): Up to $5,000 per employee
• **Criminal Penalty**	First offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing public work for up to one year. Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a $50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)

WE ARE YOUR DOL

NEW YORK STATE Department of Labor

New York State Department of Labor
Bureau of Public Work

Attention Employees

THIS IS A:

PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Your pay stub and wage notice received upon hire must clearly state your wage rate and supplement rate.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at: https://dol.ny.gov/bureau-public-work

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5287		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is $250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training “prior to the performing any work on the project.”

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.)*
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is $3 million in Bronx, Kings, New York, Queens and, Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirement s on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.
Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.
Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.
Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

*Contractor Registry (LL 220-I): Effective December 30th, 2024
Labor Law Section 220-i(6) prohibits contractors from bidding on public work and prohibits both contractors and subcontractors from commencing work on private and public projects subject to prevailing wage requirements. This section requires contractors to submit their Certificate of Registration with their bid materials. Each Certificate of Registration will have a unique registration number. Failure to provide proof of registration, as required by Labor Law Section 220-i, as a minimum qualification will result in the bidder being deemed non-responsive. There is a public database of registered contractors and subcontractors available online at data.ny.gov to confirm registration validity. For additional information on how to register and the requirements, visit https://dol.ny.gov/public-work-contractor-and-subcontractor-registry-landing

*Electronic Certified Payroll (LL 220-J): Effective December 31st, 2025
Effective December 31, 2025, all contractors and subcontractors who perform public work, or covered private work subject to the prevailing wage, will be required to submit certified payrolls electronically to the Bureau of Public Work and Prevailing Wage Enforcement. Additional information about the electronic certified payroll submission system will be made available on the Department's Website at https://dol.ny.gov/Electronic-Payroll

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the projects date of completion. Additionally, as per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less that six (6) years, contemporaneous, true, and accurate payroll records.

At a minimum, payrolls must show the following information for each person employed on a public work project: Name; Address, Last 4 Digits of Social Security number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Payroll records and transcripts are required to be kept on site during all the time that work under that contract is being performed.

NOTE: *For more detailed information regarding Article 9 prevailing wage contracts, please refer to "General Provisions of Laws Covering Workers on Article 9 Public Work Building Service Contracts".*

If you have any questions concerning the attached schedule or would like additional information, please write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

OR

Contact the nearest BUREAU of PUBLIC WORK District Office

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004

Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year.

All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Shift Work

If the timeline of the contract requires shift work be performed to meet deadlines, the BPWE will enforce the shift work rate as the required rate on the project whether or not shift work is specifically addressed in the contract.

Paid Prenatal Leave

Every employer shall be required to provide to its employees twenty hours of paid prenatal personal leave during any fifty-two week calendar period. Paid prenatal personal leave shall mean leave taken for the health care services received by an employee during their pregnancy or related to such pregnancy, including physical examinations, medical procedures, monitoring and testing, and discussions with a healthcare provider related to the pregnancy. Paid prenatal personal leave may be taken in hourly increments. Benefits for paid prenatal personal leave shall be paid in hourly installments. Employees shall receive compensation at the employee's regular rate of pay, or the applicable minimum wage established by the labor law, whichever is greater, for the use of Paid Prenatal leave.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12226

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Steuben County General Construction

Boilermaker — 03/01/2026

JOB DESCRIPTION Boilermaker **DISTRICT** 12

ENTIRE COUNTIES
Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Steuben, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2025	01/01/2026 Additional
Boilermaker	$ 39.35	$ 2.50*

The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour: $ 33.52*

*NOTE: $32.03 of this amount is for every Hour "Paid"

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
1st Term at 12 Months
Terms 3-8 at 6 Months
Per Hour:
1st 65%
3rd 70% 4th 75% 5th 80% 6th 85% 7th 90% 8th 95%

Supplemental Benefits per hour:

All Terms $ 33.52**

**NOTE: $32.03 of this amount is for every Hour "Paid"

12-7

Broadband — 03/01/2026

JOB DESCRIPTION Broadband **DISTRICT** 4

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Orange: Only in the Village of Greenwood Lake, Village of Highland Falls, Town of Tuxedo, and Town of Patterson

WAGES
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to New York State Labor Law §224-E, solicited on or after July 1,2025. For all other projects solicited prior to July 1,2025 please see LINEMAN ELECTRICIAN-TELEDATA

Per Hour:	07/01/2025	08/04/2025
Field Tech Install/Repair	$ 51.31	$ 52.85

For outside work (excluding installation on building construction/alteration/renovation projects), stopping at first point of attachment (demarcation), installing/maintaining/repairing broadband internet service.

"Broadband", "Broadband Service", or "Broadband Internet" means mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service.

Note: EXLCUDES work within ten (10) feet of High Voltage (600 Volts and over) transmission lines for this work, please see LINEMAN

SUPPLEMENTAL BENEFITS
Per Hour:

$ 23.24

OVERTIME PAY
See (B, K, *R) on OVERTIME PAGE
* Two and one half times the hourly rate after the 8th hour

HOLIDAY
Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

4-CWA-Dist2

Carpenter - Building 03/01/2026

JOB DESCRIPTION Carpenter - Building **DISTRICT** 2

ENTIRE COUNTIES
Chemung, Cortland, Schuyler, Steuben, Tompkins

PARTIAL COUNTIES
Allegany: Only the Township of Alfred.

WAGES

Per hour:	07/01/2025	01/01/2026	07/01/2026 Additional	07/01/2027 Additional
Carpenter	$ 31.59	$ 32.09	$ 3.50*	$ 4.00*
Floor Coverer	31.59	32.09	3.50*	4.00*
Carpet Layer	31.59	32.09	3.50*	4.00*
Dry-Wall	31.59	32.09	3.50*	4.00*
Diver-Wet Day	61.25	61.25	0.00	4.00*
Diver -Dry Day	32.59	33.09	3.50*	4.00*
Diver Tender	32.59	33.09	3.50*	4.00*

*To be allocated at a later date

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- Pile Drivers/Dock Builders shall receive $0.25 per hour over the journeyworker's rate of pay when performing piledriving/dock building work.
- Certified welders shall receive $1.00 per hour over the journeyworker's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work (Effective 7/1/2026 premium increases to $3.00/hr and will include premium when AWS certification is required).
- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive his regular hourly rate plus $1.50 per hour.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
  0' to 80' no additional fee
  81'to 100' additional $.50 per foot
  101'to 150' additional $0.75 per foot
  151'and deeper additional $1.25 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
  0' to 50' no additional fee
  51' to 100' additional $.75 per foot
  101' and deeper additional $1.00 per foot
- Diver rates applies to all hours worked on dive day.

SHIFT WORK
On Agency/Owner mandated shift work, the following rates will be applicable:
1st Shift - Regular Rate
2nd Shift - Premium of 7% of base wage per hour (Effective 7/1/2026 premium increases to 10%)
3rd Shift - Premium of 14% of base wage per hour (Effective 7/1/2026 premium increases to 15%)
Shift work shall be defined as implementing at least two (2) shifts in a twenty-four (24) consecutive hour period. Shift work must be for a minimum of three (3) consecutive days.

SUPPLEMENTAL BENEFITS
Per hour:

	07/01/2025	01/01/2026
Journeyworker	$ 23.39	$ 23.39

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday which occurs on Sunday shall be observed the following Monday. If Christmas falls on a Saturday, it shall be observed on the prior Friday.

REGISTERED APPRENTICES
Wages per hour (1300 hour terms at the following percentage of Journeyworker's base wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour:

$ 12.55	$ 12.55	$ 15.15	$ 15.15

NOTE ADDITIONAL AMOUNTS PAID TO APPRENTICES FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- Pile Driving/Dock Builder apprentices shall receive an additional $0.25 per hour worked when performing piledriving/dock building work.
- Certified Welders shall receive $1.00 per hour over the apprentices rate of pay when the apprentice is required to be certified and performs DOT or ABS specified welding work (Effective 7/1/2026 premium increases to $3.00/hr and will include premium when AWS certification is required).
- When an apprentice performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require the apprentice to be furnished and use or wear required forms of personal protection, then the apprentice shall receive his regular hourly rate plus $1.50 per hour.

2-277B-CS

Carpenter - Building / Heavy&Highway 03/01/2026

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing west to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

WAGES

Wages per hour:	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface	$ 37.94	$ 2.25*	$ 2.25*

* To be allocated at a later date.

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyworker	$ 27.34

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE
Notes:
When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. Whan a holiday falls upon a Sunday, it shall be observed on the following Monday.
An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES
Wages per hour (1300 hour terms at the following percentage of Journeyworker's wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour worked:

$19.10	$19.69	$21.83	$22.42

2-42AtSS

Carpenter - Heavy&Highway 03/01/2026

JOB DESCRIPTION Carpenter - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Cayuga, Chemung, Cortland, Delaware, Jefferson, Lewis, Onondaga, Oswego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Yates

WAGES

Per hour	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
Carpenter	$ 39.52	$ 2.00*	$ 4.42*
Piledriver	39.52	2.00*	4.42*
Dockbuilder	39.52	2.00*	4.42*
Diver-Wet Day	64.52	2.00*	4.42*
Diver-Dry Day	40.52	2.00*	4.42*
Diver-Tender	40.52	2.00*	4.42*

*To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- State or Federal designated hazardous site, requiring protective gear shall be an additional $2.50 per hour.
- Certified welders when required to perform welding work will receive an additional $5.00 per hour.

ADDITIONAL NOTES PERTAINING TO DIVERS/TENDERS:
- Divers and Tenders shall receive one and one half (1 1/2) times their regular diver and tender rate of pay for Effluent and Slurry diving.
- Divers and tenders being paid at the specified rate for Effluent and Slurry diving shall have all overtime rates based on the specified rate plus the appropriate overtime rates (one and one half or two times the specified rate for Slurry and Effluent divers and tenders).
- The pilot of an ADS or submersible will receive one and one-half (1 1/2) times the Diver-Wet Day Rate for time submerged.
- All crew members aboard a submersible shall receive the Diver-Wet Day rate.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
  0' to 50' no additional fee
  51' to 100' additional $0.50 per foot
  101' to 150' additional $0.75 per foot
  151' to 200' additional $1.25 per foot
  201' and deeper additional $1.50 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
  0' to 50' no additional fee
  51' to 100' additional $0.75 per foot
  101' to 200' additional $1.00 per foot
  Over 201' additional $1.25 per foot
- Diver rates applies to all hours worked on dive day.

SHIFT WORK
When project owner mandates a single irregular work shift, the Journeyworkers and Apprentices will receive an additional $4.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 27.31

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
- In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday.
- The employee must work their scheduled workday before and their scheduled workday after the holiday to receive holiday pay.

REGISTERED APPRENTICES
CARPENTER/PILEDRIVER/DOCKBUILDER APPRENTICES
Wages per hour (1300 hour terms at the following percentage of journeyworker's base wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour:

$ 19.07	$ 19.66	$ 21.75	$ 22.34

NOTE ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED:
- State or Federal designated hazardous site, requiring protective gear shall be an additional $2.50 per hour.
- Certified welders when required to perform welding work will receive an additional $5.00 per hour.

2-277HH-Bro

Electrician 03/01/2026

JOB DESCRIPTION Electrician **DISTRICT** 2

ENTIRE COUNTIES
Chemung, Steuben

PARTIAL COUNTIES
Allegany: Only the townships of Allen, Almond, Alfred, Andover, Birdsall, Burns, Granger, Grove, Hume, Independence, Ward, Wellsville, West Almond, Willing, and that portion of Amity, Angelica, Belfast, Caneadea, and Scio that lie east of the Genesee River.
Schuyler: Only the Townships of Dix, Montour, Orange, Reading and Tyrone.
Tioga: Only the Townships of Barton and Nichols.

WAGES

Per hour:	07/01/2025
Electrician (Base wage)	$ 43.40
Audio,Sound,Teledata	43.40

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
Additional $1.00 per hour for high work defined as work being done more than 35' above the floor where electricians are working on Tooth Picks, Structural Steel, Temporary Platforms, Swinging Scaffolds and Boatswain Chairs.
Additional $1.00 per hour for work in shafts 25' deep and in tunnels 50' long under construction.
Additional $2.00 per hour for work inside or on Towers, Smoke Stacks and Wind Turbine Generators over 100' high.
Additional $2.00 per hour for work in hazardous locations requiring supplied air (other than Class A) and any other type of respiratory equipment required for Class B or Class C as defined in OSHA Standards.
Additional $3.00 per hour for work in hazardous locations requiring Class A supplied air as defined in OSHA Standards.

SHIFT WORK
When shift work is mandated in the job specifications or by the contracting agency, the following journeyworker hourly rates apply. The starting hours of a shift may be adjusted up to two (2) hours in order to meet the needs of the contracting agency.

Between the hours of 8:00AM and 4:30PM	$ 43.40
Between the hours of 4:30PM and 1:00AM	48.83
Between the hours of 12:30AM and 9:00AM	54.25

SUPPLEMENTAL BENEFITS
Per hour:
Journeyworker
$ 22.57 plus $ 7.85* plus 3% of hourly wage
*Subject to SAME PREMIUM as overtime work

OVERTIME PAY
See (B, *E, Q) on OVERTIME PAGE
*Work performed on Saturday shall be paid at one and one-half of the hourly rate for the first ten hours, then two times the hourly rate therafter.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 23) on HOLIDAY PAGE
When the holiday falls on Saturday, it shall be recognized and celebrated as such on the Friday before and when the holiday falls on Sunday, it shall be recognized and celebrated as such on the following Monday (December 24th excluded).

REGISTERED APPRENTICES
WAGES: One year terms at the following percent of Journeyworker's wage.

1st	2nd	3rd	4th	5th
50%	55%	65%	75%	85%

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
Additional $1.00 per hour for high work defined as work being done more than 35' above the floor where electricians are working on Tooth Picks, Structural Steel, Temporary Platforms, Swinging Scaffolds and Boatswain Chairs.
Additional $2.00 per hour for work inside or on Towers, Smoke Stacks and Wind Turbine Generators over 100' high.
Additional $1.00 per hour for work in shafts 25' deep and in tunnels 50' long under construction.
Additional $3.00 per hour for work in hazardous locations requiring Class A supplied air as defined in OSHA Standards.
Additional $2.00 per hour for work in hazardous locations requiring supplied air (other than Class A) and any other type of respiratory equipment required for Class B or Class C as defined in OSHA Standards.

SUPPLEMENTAL BENEFITS per hour:
07/01/2025

1st term	$13.42 plus 3% of hourly wage
2nd term	$18.45 plus $4.32* plus 3% of hourly wage

3rd term	$19.37 plus $5.10* plus 3% of hourly wage
4th term	$20.28 plus $5.89* plus 3% of hourly wage
5th term	$21.20 plus $6.67* plus 3% of hourly wage

*Subject to SAME PREMIUM as overtime work

2-139

Elevator Constructor — 03/01/2026

JOB DESCRIPTION Elevator Constructor **DISTRICT** 5

ENTIRE COUNTIES
Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates

WAGES
Per hour worked: 07/01/2025

Elevator Constructor	$ 61.52
Helper	49.22

SUPPLEMENTAL BENEFITS
Per hour:

$ 40.035

*Add 6% of regular hourly rate for all hours worked.

OVERTIME PAY
See (D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES
850 hours terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
50*	55%	65%	65%	70%	70%	80%	80%

*Zero benefits paid for first term.

Supplemental Benefits per hour:

$ 40.035*

*Add 6% of regular hourly rate for all hours worked

5-27

Glazier — 03/01/2026

JOB DESCRIPTION Glazier **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES
Per hour: 07/01/2025

Glazier	$ 30.00

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 33.15

OVERTIME PAY
See (B, E*, E2, Q**) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
1000 hour terms

Appr. 1st term	$ 20.00

Appr. 2nd term	21.00
Appr. 3rd term	22.00
Appr. 4th term	23.00
Appr. 5th term	24.00
Appr. 6th term	25.00
Appr. 7th term	26.00
Appr. 8th term	27.00

Supplemental Benefits per hour:

Appr. 1st term	$ 13.27
Appr. 2nd term	13.27
Appr. 3rd term	19.27
Appr. 4th term	19.27
Appr. 5th term	20.27
Appr. 6th term	20.27
Appr. 7th term	21.27
Appr. 8th term	21.27

5-677z3

Insulator - Heat & Frost — 03/01/2026

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT** 7

ENTIRE COUNTIES
Livingston, Monroe, Ontario, Orleans, Steuben, Wayne, Yates

PARTIAL COUNTIES
Genesee: Only the Townships of Batavia, Bergen, Bethany, Byron, Elba, Leroy, Pavilion, Stafford, and the City of Batavia.

WAGES

Per hour:	07/01/2025	06/01/2026 Additional	06/01/2027 Additional	06/01/2028 Additional
ON MECHANICAL SYSTEMS ONLY:				
Asbestos Installer	$ 40.26	$ 4.25*	$ 4.25*	$ 4.25*
Insulation Installer	40.26	4.25*	4.25*	4.25*

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 25.46

OVERTIME PAY
See (B, E, *Q) on OVERTIME PAGE
*Triple time for Labor Day if worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: When a holiday falls on a Sunday, the following Monday shall be observed as the holiday. When a holiday falls on a Saturday, then the previous Friday shall be observed as the holiday.

REGISTERED APPRENTICES
WAGES: One (1) year terms at the following wage rates.

1st year	$ 26.17
2nd year	28.18
3rd year	32.21
4th year	36.23

SUPPLEMENTAL BENEFITS per hour worked:

Appr. First 1000 Hours	$ 10.87
Appr. Rest of 1st year	12.34
Appr. 2nd year	23.96
Appr. 3rd year	24.96
Appr. 4th year	24.96

7-26

Ironworker **03/01/2026**

JOB DESCRIPTION Ironworker **DISTRICT** 5

ENTIRE COUNTIES
Chemung, Livingston, Monroe, Ontario, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Birdsall, Burns and Grove.
Genesee: Only the Townships of Batavia, Bergen, Bethany, Byron, Elba, LeRoy, Oakfield, Pavillion, Stafford.
Orleans: Only the Townships of Albion, Barre, Carlton, Clarendon, Gaines, Kendall, Murray, and Village of Holley.
Schuyler: Only the Townships of Dix, Orange, Reading and Tyron.
Steuben: Only the Townships of Addison, Avoca, Bath , Bradford, Cameron, Campbell, Caton, Cohocton, Corning, Dansville, Erwin, Hornby, Lindley, Prattsburg, Pulteney, Rathbone, Thurston, Tuscarora, Urbana, Wayland, Wayne, Wheeler, Woodhull.
Wayne: Only the Townships of Arcadia, Lyons, Macedon, Marion, Ontario, Palmyra, Sodus, Walworth, Willamson and Village of Newark.
Wyoming: Only the Townships of Castile, Covington, Middlebury, Perry.

WAGES

Per hour:	07/01/2025
Structural	$ 35.75
Reinforcing	35.75
Ornamental	35.75
Fence Erector	35.75
Welder	35.75
Sheeter	36.00
Stone Derrick Man	35.75
Mach. Mov./Rigger	35.75
Precast Concrete Erector	35.75
Window/Curtainwall Erector	35.75
Pre-Engineered Building	35.75

SHIFT WORK
When shift work is mandated either in the job specification or by the contracting agency the following premiums apply
10% for second shift work from 2:00PM - 7:00PM
15% for third shift work from 7:00PM - 12:00AM

When a single irregular shift is worked outside the standard workday with the start times based on second and third shifts, a 10% premium on hours worked applies.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 32.65

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
One year terms at the following rates.

1st.	2nd.	3rd.	4th.
$21.50	$23.50	$25.50	$27.50

Supplemental Benefits per hour:

Appr. 1st year	$ 13.98
Appr. 2nd year	21.79
Appr. 3rd year	22.90
Appr. 4th year	24.02

5-33.1

Ironworker **03/01/2026**

JOB DESCRIPTION Ironworker **DISTRICT** 3

ENTIRE COUNTIES
Cattaraugus, Chautauqua

PARTIAL COUNTIES
Allegany: Entire county except the Towns of Birdsall, Burns and Grove.
Erie: All except the Town of Grand Island north of Whitehaven Road.

Genesee: Only the Townships of Alabama, Alexander, Darien and Pembroke
Steuben: Only the Townships of Canisteo, Freemont, Greenwood,Hartsville, Hornell, Hornellsville, Howard, Jasper, Troupsburg and West Union
Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle,Gainsville, Java, Orangeville, Pike, Sheldon, Warsaw and Wethersfield.

WAGES

Per hour:	07/01/2025
Structural	$ 36.76
Ornamental	36.76
Layout	36.76
Rodmen	36.76
Reinforcing	36.76
Welders	36.76
Riggers & Mach. Movers	36.76
Curtain Wall Erector	36.76
Window Erector	34.31
Fence Erector	35.21

SHIFT WORK
When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:
10% for second shift work from 2:00PM - 7:00PM
15% for third shift work from 7:00PM - 12:00AM

When a single irregular shift is worked outside the standard workday with the start times based on second and third shifts, a 10% premium on hours worked applies.

SUPPLEMENTAL BENEFITS
Per hour:

Fence Erectors	$ 32.62
All others	34.12

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 21.50	$ 23.50	$ 25.50	$ 27.50

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 15.57	$ 25.88	$ 27.35	$ 28.83

3-6

Laborer - Building 03/01/2026

JOB DESCRIPTION Laborer - Building **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock, and Colchester.

WAGES
Per hour:

GROUP #1: Basic Laborer - excavation, concrete vibrator, power-driven buggie, demolition (including acetylene torch work) that is customarily done by a laborer

GROUP #2: Air Tool Operators, Mason Tenders

GROUP #3: Blaster, Rock Drill (compressor driven)

GROUP #4: Asbestos, Hazardous, Toxic Waste, Lead and Mold Remediation

	07/01/2025	07/01/2026 Additional
GROUP #1	$ 30.00	$ 1.25*
GROUP #2	31.00	1.25*
GROUP #3	32.00	1.25*
GROUP #4	32.00	1.25*

*To be allocated at a later date.

IMPORTANT NOTES:
- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.
- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 20.20

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
When a holiday falls on Sunday, it shall be observed on the following Monday.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyworker's wage.

1st	2nd	3rd	4th
70%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

1st term	$ 15.85
2nd term	17.10
3rd term	17.98
4th term	18.85

2-785b

Laborer - Heavy&Highway **03/01/2026**

JOB DESCRIPTION Laborer - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES
Per hour:

GROUP A: Drill Helper, Flagman, Outboard and Hand Boats.

GROUP B: Basic Rate, Bull Float (where used for strike off only), Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers Tools, Installation of Bridge Drainage Pipe, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operators (1-1/2" & Single Diaphragm), Nozzle (Asphalt, Gunite, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, and Air Tool Operators, Wrecking Laborer.

GROUP C: Drilling equipment - only where a separate air compressor unit supplies power, Acetylene Torch Operators, Asphalt Raker, Powder Man, Tail or Screw Operator on Asphalt Paver.

GROUP D: Blasters, Form Setters (slab steel forms on highways, roads, streets & airport runways), Stone or Granite Curb Setters.

GROUP E: Hazardous Waste defined as when an employee performs hazardous waste removal, lead abatement and removal, asbestos abatement and removal work on State and/or Federally designated waste site and were relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
GROUP A	$ 38.06	$ 3.40*	$ 4.20*
GROUP B	38.26	3.40*	4.20*
GROUP C	38.46	3.40*	4.20*
GROUP D	38.66	3.40*	4.20*
GROUP E	43.26	3.40*	4.20*

*To be allocated at a later date.

IMPORTANT NOTES:
- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.
- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".
- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full-face replaceable cartridge respirator for more than (2) hours, then in such case said employee(s) will be paid the Group E rate for the shift.

SHIFT WORK
A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional $5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 26.35

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Saturday.
- An Employee must work the scheduled working day before and the scheduled working day after a holiday to receive holiday pay.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyworker's GROUP B wage:

1st	2nd	3rd	4th
70%	80%	90%	95%

SUPPLEMENTAL BENEFITS per hour:
All terms $ 26.35

2-785h

Laborer - Tunnel 03/01/2026

JOB DESCRIPTION Laborer - Tunnel **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES
Per hour:

GROUP A: Change House Man

GROUP B: Miners and all Machine Men, Safety Miner, All Shaft work, Caisson work, Drilling, Blow Pipe, all Air Tools, Tugger, Scaling, Nipper, Guniting pot to nozzle, Bit Grinder, Signal Man (top and bottom), Concrete Man, Shield Driven Tunnels, mixed face and soft ground, liner plate tunnels in free air.

GROUP C: Blaster

GROUP D: Hazardous waste removal work on a State and/or Federally designated waste site where relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

07/01/2025	07/01/2026	07/01/2027

		Additional	Additional
Group A	$ 41.24	$ 3.40*	$ 4.20*
Group B	41.44	3.40*	4.20*
Group C	44.24	3.40*	4.20*
Group D	46.24	3.40*	4.20*

*To be allocated at a later date

IMPORTANT NOTES:
- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full face replaceable cartridge respirator for more then (2) hours, then in such case said employee(s) will be paid the Group D rate for the shift.

SHIFT WORK
A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional $5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 26.35

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Friday.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
If the holiday falls on Saturday, it will be celebrated on Friday. If the holiday falls on Sunday, it will be celebrated on Monday

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Group B wage

1st	2nd	3rd	4th
70%	80%	90%	95%

SUPPLEMENTAL BENEFITS per hour:

All Terms $ 26.35

2-785T

Lineman Electrician — 03/01/2026

JOB DESCRIPTION Lineman Electrician **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe, or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

Crane Operators: Operation of any type of crane on line projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on line projects.
Digging Machine Operator: All other digging equipment and augering on line projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

-----Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. Includes access matting for line work.

Per hour:	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A:				
Lineman, Technician	$ 61.56	$ 64.37	$ 66.84	$ 69.47
Crane, Crawler Backhoe	61.56	64.37	66.84	69.47
Welder, Cable Splicer	61.56	64.37	66.84	69.47
Group B:				
Digging Mach. Operator	$ 55.40	$ 57.93	$ 60.16	$ 62.52
Group C:				
Tractor Trailer Driver	$ 52.33	$ 54.71	$ 56.81	$ 59.05
Groundman, Truck Driver	49.25	51.50	53.47	55.58
Equipment Mechanic	49.25	51.50	53.47	55.58
Group D:				
Flagger	$ 33.86	$ 35.40	$ 36.76	$ 38.21

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work." Includes access matting for line work.

Group A:				
Lineman, Technician	$ 61.56	$ 64.37	$ 66.84	$ 69.47
Crane, Crawler Backhoe	61.56	64.37	66.84	69.47
Cable Splicer	67.72	70.81	73.52	76.42
Certified Welder, Pipe Type Cable	$ 64.64	$ 67.59	$ 70.18	$ 72.94
Group B:				
Digging Mach. Operator	$ 55.40	$ 57.93	$ 60.16	$ 62.52
Group C:				
Tractor Trailer Driver	$ 52.33	$ 54.71	$ 56.81	$ 59.05
Groundman, Truck Driver	49.25	51.50	53.47	55.58
Equipment Mechanic	49.25	51.50	53.47	55.58
Group D:				
Flagger	$ 33.86	$ 35.40	$ 36.76	$ 38.12

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. Includes access matting for line work.

Group A:				
Lineman, Tech, Welder	$ 62.94	$ 65.81	$ 68.34	$ 71.03
Crane, Crawler Backhoe	62.94	65.81	68.34	71.03
Cable Splicer	69.23	72.39	75.17	78.13
Certified Welder, Pipe Type Cable	66.09	69.10	71.76	74.58
Group B:				
Digging Mach. Operator	$ 56.65	$ 59.23	$ 61.51	$ 63.93
Group C:				
Tractor Trailer Driver	$ 53.50	$ 55.94	$ 58.09	$ 60.38
Groundman, Truck Driver	50.35	52.65	54.67	56.82
Equipment Mechanic	50.35	52.65	54.67	56.82
Group D:				
Flagger	$ 34.62	$ 36.20	$ 37.59	$ 39.07

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. Includes access matting for line work.

Group A:				
Lineman, Tech, Welder	$ 64.18	$ 67.10	$ 69.68	$ 72.43
Crane, Crawler Backhoe	64.18	67.10	69.68	72.43
Group B:				
Digging Mach. Operator	$ 57.76	$ 60.39	$ 62.71	$ 65.19
Group C:				
Tractor Trailer Driver	$ 54.55	$ 57.04	$ 59.23	$ 61.57
Groundman, Truck Driver	51.34	53.68	55.74	57.94
Equipment Mechanic	51.34	53.68	55.74	57.94
Group D:				
Flagger	$ 35.30	$ 36.91	$ 38.32	$ 39.84

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

SHIFT WORK

THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A	$ 31.90*	$ 32.90*	$ 34.40*	$ 35.90*
Group B	$ 27.90*	$ 28.90*	$ 30.40*	$ 31.90*
Group C	$ 27.70*	$ 28.50*	$ 29.70*	$ 30.90*
Group D	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

*Plus 7 % of the hourly wage paid. The 7% is based on straight time or premium time.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for all emergency work designated by the Dept. of Jurisdiction.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid	See (5, 6, 8, 15, 25) on HOLIDAY PAGE
Overtime	See (5, 6, 8, 15, 25) on HOLIDAY PAGE

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
All terms:	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

*Plus 7% of the hourly wage paid. The 7% is based on straight time or premium time.

6-1249a

Lineman Electrician - Teledata **03/01/2026**

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to LL 224-E,solicited prior to July 1, 2025. For all projects, excluding dial-up internet access service, solicited on or after July 1, 2025, please see BROADBAND

Per hour:	07/01/2025
Cable Splicer	$ 40.81
Installer, Repairman	$ 38.73
Teledata Lineman	$ 38.73
Tech., Equip. Operator	$ 38.73
Groundman/Flagger	$ 20.53

For outside work, stopping at first point of attachment (demarcation).

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work, please see LINEMAN.

SHIFT WORK
THE FOLLOWING RATES APPLY WHEN THE CONTRACTING AGENCY MANDATES MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION ARE WORKED. WHEN TWO (2) OR THREE (3) SHIFTS ARE WORKED THE FOLLOWING RATES APPLY:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 5.77 *plus 3% of the hour wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting — 03/01/2026

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

Crane Operators: Operation of any type of crane on Traffic Signal/Lighting projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on Traffic Signal/Lighting projects.
Digging Machine Operator: All other digging equipment and augering on Traffic Signal/Lighting projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

Per hour:	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A:				
Lineman, Technician	$ 52.86	$ 55.31	$ 57.40	$ 59.64
Crane, Crawler Backhoe	52.86	55.31	57.40	59.64
Certified Welder	55.50	58.08	60.27	62.62
Group B:				
Digging Machine	$ 47.57	$ 49.78	$ 51.66	$ 53.68
Group C:				
Tractor Trailer Driver	$ 44.93	$ 47.01	$ 48.79	$ 50.69
Groundman, Truck Driver	42.29	44.25	45.92	47.71
Equipment Mechanic	42.29	44.25	45.92	47.71
Group D:				
Flagger	$ 31.72	$ 33.19	$ 34.44	$ 35.78

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

SHIFT WORK

THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

SUPPLEMENTAL BENEFITS

Per hour worked:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A	$ 31.90*	$ 32.90*	$ 34.40*	$ 35.90*
Group B	$ 27.90*	$ 28.90*	$ 30.40*	$ 31.90*
Group C	$ 27.70*	$ 28.50*	$ 29.70*	$ 30.90*
Group D	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

* Plus 7% of the hourly wage paid. The 7% is based on straight time or premium time.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for all emergency work designated by the Dept. of Jurisdiction.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
All terms:	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

* Plus 7% of the hourly wage paid. The 7% is based on straight time or premium time.

6-1249a-LT

Lineman Electrician - Tree Trimmer — 03/01/2026

JOB DESCRIPTION Lineman Electrician - Tree Trimmer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also includes stump removal near underground energized electrical lines including telephone and CATV lines.

Per hour:	07/01/2025	01/01/2026	01/04/2026	01/03/2027
Tree Trimmer	$ 33.18	$ 33.18	$ 34.67	$ 36.23
Equipment Operator	29.35	29.35	30.67	32.05
Equipment Mechanic	29.35	29.35	30.67	32.05
Truck Driver	23.85	23.85	24.93	26.05
Groundman	19.64	19.64	20.53	21.45
Flagger	15.50	16.00	16.20	16.93

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 10.98*	$ 10.98*	$ 11.23*	$ 11.48*

* Plus 4.5% of the hourly wage paid. The 4.5% is based on straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday. All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building — 03/01/2026

JOB DESCRIPTION Mason - Building **DISTRICT** 5

ENTIRE COUNTIES
Chemung, Schuyler, Steuben

PARTIAL COUNTIES
Allegany: Only the Townships of Alfred, Almond, Andover and Burns.

WAGES

Per Hour:	07/01/2025
Building:	
Bricklayer, Cement	$ 33.26
Mason, Plasterer, Stone	
Mason, Tuck Pointer	

SUPPLEMENTAL BENEFITS
Per hour:
Journeyman $ 31.66

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 20.29	$ 25.28	$ 27.36	$ 29.93

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 26.92	$27.82	$ 29.69	$ 31.05

5-3b - Co - Z2

Mason - Heavy&Highway 03/01/2026

JOB DESCRIPTION Mason - Heavy&Highway **DISTRICT** 5

ENTIRE COUNTIES
Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Cattaraugus: Enitre county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.
Erie: Only the Bricklayer classification applies.
Niagara: Only the Bricklayer classification applies.

WAGES
Per hour: 07/01/2025
Heavy & Highway:
Cement Mason $ 38.63
Bricklayer 38.63

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 26.28

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

1st term	$ 15.40
2nd term	$ 24.62
3rd term	$ 25.04
4th term	$ 25.45

5-3h

Mason - Tile Finisher 03/01/2026

JOB DESCRIPTION Mason - Tile Finisher **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES

Allegany: Towns of Alfred, Almond, Andover and Burns in Allegany County

WAGES

Wages	
Per hour:	07/01/2025
Building:	
Marble, Slate, Terrazzo and Tile Finisher	$ 32.45

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	$ 23.52

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st	2nd	3rd
$ 19.47	$ 22.72	$ 25.96

Supplemental benefits per hour:

1st	2nd	3rd
$ 15.12	$ 15.72	$ 20.37

5-3TF - Z4

Mason - Tile Setter — 03/01/2026

JOB DESCRIPTION Mason - Tile Setter **DISTRICT** 5

ENTIRE COUNTIES

Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES

Allegany: Towns of Alfred, Almond, Andover and Burns.

WAGES

Wages	
Per Hour:	07/01/2025
Building:	
Marble, Slate, Terrazzo and Tile Setter	$ 34.69

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	$ 27.06

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 20.81	$ 24.28	$ 27.75	$ 31.22

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 15.59	$ 16.26	$ 25.70	$ 26.38

5-3TS - Z4

Millwright 03/01/2026

JOB DESCRIPTION Millwright **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
THE FOLLOWING RATE APPLIES TO ANY GAS/STEAM TURBINE AND OR RELATED COMPONENT WORK, INCLUDING NEW INSTALLATIONS OR MAINTENANCE AND ANY/ALL WORK PERFORMED WITHIN THE PROPERTY LIMITS OF A NUCLEAR FACILITY.

Per hour:	07/01/2025
Millwright - Power Generation	$ 47.00

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive an additional $1.75 per hour provided they are directed to perform Certified Welding.
- If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) is required, then that employee shall receive an additional $1.50 per hour.
- An employee performing the work of a machinist shall receive an additional $2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional $1.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour paid:

Journeyworker	$ 28.45*

*NOTE: Subject to OT premium

OVERTIME PAY
See (B, E, E2, Q, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*
Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	$ 1.75
Hazardous Waste Work	1.50
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	$ 11.95
Appr. 2nd year	23.50
Appr. 3rd year	25.15
Appr. 4th year	26.80

6-1163Power

Millwright 03/01/2026

JOB DESCRIPTION Millwright **DISTRICT** 6

ENTIRE COUNTIES
Chemung, Cortland, Livingston, Monroe, Ontario, Orleans, Schuyler, Steuben, Tompkins, Wayne, Wyoming

WAGES

Per hour:	07/01/2025
Building	$ 37.89
Heavy & Highway	41.39

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive an additional $1.75 per hour provided they are directed to perform Certified Welding.
- On Building projects, If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) is required, then that employee shall receive an additional $1.50 per hour.
- H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional $2.00 per hour over the Millwright H/H rate for all hours worked on the day protective gear was worn.
- An employee performing the work of a machinist shall receive an additional $2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional $1.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.29

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*
Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	$ 1.75
Hazardous Waste (Bldg)	1.50
Hazardous Waste (H/H)	2.00
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	$ 11.95
Appr. 2nd year	22.69
Appr. 3rd year	24.22
Appr. 4th year	25.76

6-1163

Operating Engineer - Building 03/01/2026

JOB DESCRIPTION Operating Engineer - Building **DISTRICT** 7

ENTIRE COUNTIES
Allegany, Chemung, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98, and the entirety of the City of Batavia.

WAGES

---In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.
---If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class 3.

CLASS A1*: All Cranes (A1 Includes Boom Trucks, Cableway, Cherry Picker, Derrick, Dragline, Dredge, Overhead Crane, Pile Driver, Tower Crane**, Truck Crane, Whirlies).

CLASS 1: Air Tugger; All terrain telescoping material handler; Barber Green and similar type machines; Clamshell; Dragline Shovel and similar machines over three-eighths cu. yd. capacity (Factory rating); Carrier mounted Backhoes that swing 360 degrees; Big Generator Plant Hoist (on steel erection); Bridge Crane (all types); Caisson auger and similar type machine; Dredge; Excavator all purpose hydraulically operated; Forklift (with Factory rating of 15' or more of lift); Hoist (on steel erection); Hydraulic/Krupp Drill; Mucking Machines; Remote controlled Excavator with attachments (Brokk type or similar); Ross Carrier (and similar type); Three-Drum Hoist (when all three drums are in use).

CLASS 2: A-Frame Truck; Backfilling Machine; Backhoe (tractor mounted); Belt Crete (and similar type machines); Bituminous spreading machine (3/8 yd. capacity or less factory rating); Bulldozer; Carry-all type Scraper; Compressors (four (4) not to exceed 2000 CFM combined capacity) or (three (3) or less with more than 1200 CFM but not to exceed 2000 CFM); Concrete Mixer; Concrete Placer; Concrete Pump; Mini Locomotives (all types); Elevating Grader; Elevator; Fine Grade and Finish Rollers; Fine Grade Machines (all kinds); Forklift with factory rating of less than 15' of lift; Front End Loader; Gunite Pumping Machine; High Pressure Boiler; Hoist (1 or 2 drums); Maintenance Engineer (Mechanic); Mechanical Slurry Machine (all kinds); Mega Mixers and similar type machines; Motor Grader; Pavement Grinder; Post Hole Digger; Pumps (regardless of motive power) no more than four (4) in number not to exceed twenty (20) inches in total capacity (not to include single electric pumps up to and including four (4) inches); Shot Crete Pumping Machine; Side Boom; Tractor; Skid Steer Loader (including attachments); Stoner Crusher; Tournadozer and similar types; Tournapull and similar types; Trenching Machines; Welder; Well Drill; Well Point System.

CLASS 3: Compressors - any combination (Not to exceed three (3) pieces of equipment or not to exceed 1200 CFM combined capacity); Fireman; Longitudinal Float; Mechanical Heater; Pumps (regardless of motive power, no more than three (3) in number, not to exceed twelve (12) inches total capacity); Roller (fill and grade); Rubber Tired Tractor; Welding Machine (except gas driven up to 300 amp); Mechanical Conveyor (over 12 ft. in length); Junior Engineers/Oilers.

Per hour:	07/01/2025
CLASS A1*	$ 47.64
CLASS 1	43.14
CLASS 2	42.34
CLASS 3	39.64

Additional $2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

(*) TONNAGE PREMIUMS:
All cranes up to 64 tons capacity - A1 rate
All cranes 65 ton to 110 ton capacity - A1 rate plus $ 1.50
All cranes 111 ton to 199 ton capacity - A1 rate plus $ 2.00
All cranes 200 ton to 399 ton capacity - A1 rate plus $ 3.00
All cranes 400 ton to 599 ton capacity - A1 rate plus $ 4.00
All cranes 600 ton to 799 ton capacity - A1 rate plus $ 5.00
All cranes 800 ton to 999 ton capacity - A1 rate plus $ 6.00
All cranes 1000 ton capacity and over - A1 rate plus $ 7.00

(**) Tower Cranes - A1 rate plus $2.50 (no tonnage premiums)

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 35.61

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: One year terms at the following percentage of the Journeyworker's wage listed below.

1st year	60% of CLASS 3 rate
2nd year	65% of CLASS 3 rate
3rd year	75% of CLASS 2 rate
4th year	80% of CLASS 1 rate

Additional $2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

SUPPLEMENTAL BENEFITS per hour: Same as Journeyworker

7-158-832B

Operating Engineer - Building - Excavating & Paving 03/01/2026

JOB DESCRIPTION Operating Engineer - Building - Excavating & Paving **DISTRICT** 7

ENTIRE COUNTIES
Allegany, Chemung, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98, and the entirety of the City of Batavia.

WAGES
NOTE: The following rates apply to "Site Work" which may include site preparation, grading, underground work, athletic fields, paving, skateboard parks and all other work outside the footprint of any building.

This wage schedule does not cover Hazardous Waste Removal work, See Heavy/Highway schedule (7-158-832H)

CLASS A: All terrain Telescoping Material Handler; Asphalt Paver; Automatic Fine Grader; Backhoe (except tractor mounted-rubber tired); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Cherry Picker (over 5 ton capacity); Crane; Cranes and Derricks (steel erection); Dragline; Dual Drum Paver; Excavator (all purpose-hydraulically operated); Front End Loader (4 cu. yd. and over); Hoist (two or three drum); Hydro-Axe; Hydraulic/Krupp Drill; Pile Driver; Power Grader (with elevating loader attachment); Quarry Master (or equivalent); Remote controlled Excavator with attachments; Shovel; Slip Form Paver (if a second man is needed, he shall be an Oiler); Tractor Drawn Belt-Type Loader; Truck Crane; Tunnel Shovel.

CLASS B: Articulated off-road Material Hauler; Backhoe (tractor mounted-rubber tired); Bituminous Spreader and Mixer; Blacktop Plant (non-automated); Boring Machine; Cage Hoist; Central Mix Plant (non-automated) and all Concrete Batching Plants; Cherry Picker (5 tons and under); Compressor (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Paver (over 16'); Concrete Pump; Crusher; Drill Rigs (tractor mounted); Front-end Loader (under 4 cu. yd.); Hi-pressure Boiler (15 lbs. and over); Hoist (one drum); Kolman Plant Loader and similar type loaders (if Employer requires another man to clean the screen or to maintain the equipment, he shall be an Oiler); Maintenance Engineer; Maintenance Grease Man; Mechanical Slurry Machine; Mixer for stabilized base (self-propelled); Monorail Machine; Plant Engineer; Power Broom; Power Grader; Pump Crete, Ready Mix Concrete Plant; Road Widener; Roller (all above sub-grade); Side Boom; Skid Steer Loader (including attachments); Tractor Scraper; Tractor with Dozer and/or Pusher; Trencher; Vacuum Truck; Winch.

CLASS C: Compressors (4 not to exceed 2,000 c.f.m. combined capacity) or (3 or less with more than 1,200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors (any size but subject to other provisions for compressors), Dust Collectors, Generators, Welding Machines (four of any type or combination); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point Systems; Farm Tractor with accessories; Fine Grade Machine; Fork Lift; Gunite Machine; Hammers (Hydraulic self-propelled); Locomotive; Post Hole Digger and Post Driver; Pumps (regardless of motive power, not more than 4 in number not to exceed 20" in total capacity); Submersible Electric Pumps (when used in lieu of well Points); Tractor with towed accessories; Vibrator Compactor; Vibro Tamp; Well Point.

CLASS D: Compressor (any size, but subject to other provisions for compressors), Dust Collectors, Generator, Welding machines (three or less of any type or combination); Concrete Mixer (16' and under); Concrete Saw (self-propelled); Form Tamper; Mulching Machine; Power Heaterman; Pumps (regardless of motive power no more than 3 in number not to exceed 12" in total capacity); Revinius Widener; Steam Cleaner; Tractor.

CLASS E: Junior Engineer/Oiler

Per hour:	07/01/2025
CLASS A	$ 41.26
CLASS B	40.79
CLASS C	40.10
CLASS D	36.61
CLASS E	35.38

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 35.26

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

Operating Engineer - Heavy&Highway 03/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT** 7

ENTIRE COUNTIES
Allegany, Chemung, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98, and the entirety of the City of Batavia.

WAGES
NOTE:
---In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.
---If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C.

CLASS A1*: All Cranes that require a NYS Crane License (Boom Truck, Cherry Picker, Derrick, Dragline, Overhead Crane (Gantry or Straddle Type), Pile Driver, Tower Crane (including self erecting)**, Truck Crane).

CLASS A: Asphalt Curb Machine (self-propelled, slipform); Asphalt Paver; Automated Concrete Spreader (CMI type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Backhoe Excavator, Full Swing (CAT 212 or similar type); Back Filling Machine; Belt Placer (CMI type); Blacktop Plant (automated); Blacktop Roller; Bulldozer (being operated with active GPS); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled, slipform); Concrete Pump; Cranes - Listed in A1 that do not require a NYS Crane License; Directional Boring/Drilling Machine; Dredge; Dual Drum Paver; Excavator (all purpose-hydraulic, Gradall or similar); Front End Loader (4 cu. yd. & over); Head Tower (Sauerman or equal); Hoist (two or three drum); Holland Loader; Maintenance Engineer; Mine Hoist; Mucking Machine or Mole; Pavement Breaker (SP Wertgen; PB-4 and similar type); Profiler/Milling Machine (over 105 h.p.); Power Grader; Quad 9; Quarry Master (or equivalent); Scraper; Shovel; Side Boom; Slip Form Paver; Tractor Drawn Belt-Type Loader; Truck or Trailer Mounted Chipper (self-feeder); Tug Operator (manned rented equipment excluded); Tunnel Shovel.

CLASS B: Backhoe (tractor mounted, rubber tired); Bituminous Recycler Machine; Bituminous Spreader and Mixer; Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Bridge Deck Finishing Machine; Brokk; Cage Hoist; Central Mix Plant (non-automated) and All Concrete Batching Plants; Concrete Paver (over 16'); Crawler Drill (self-contained); Crusher; Diesel Power Unit; Drill Rigs (truck or tractor mounted); Front End Loader (under 4 cu. yd.); Greaseman - Lubrication Engineer; HiPressure Boiler (15 lbs & over); Hoist (one drum); Hydro-Axe; Kolman Plant Loader & similar type loaders; Locomotive; Material Handling Knuckle Boom; Mini-Excavator (under 18,000lbs); Mixer (for stabilized base, self-propelled); Monorail Machine; Profiler/Milling Machine (105 h.p. and under); Plant Engineer; Prentice Loader; Pug Mill; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above subgrade); Sea Mule; Self-contained ride-on Rock Drill (excluding Air-Track type drill); Skidder; Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Vacuum Machine (mounted or towed); Vermeer Saws (ride-on, any size or type); Welder; Winch and Winch Cat; Work Boat Operator including L.C.M.'s.

CLASS C: "A" Frame Winch Hoist (On Truck); Aggregate Plant; Articulated Heavy Hauler; Asphalt or Concrete Grooving Machine (ride-on); Ballast Regulator (ride-on); Bituminous Heater (self-propelled); Boat (powered); Boiler (used in conjunction with production); Cement & Bin Operator; Compressors***; Concrete Pavement Spreader and Finisher; Concrete Paver or Mixer (16' & under); Concrete Saw (self-propelled); Conveyor; Deck Hand; Directional Boring/Drilling Machine Locator; Drill (Core); Drill (Well); Dust Collectors***; Electric Pump When Used in Conjunction with Well Point System; Farm Tractor with accessories; Fine Grade Machine; Fireman; Fork Lift; Form Tamper; Generators***; Grout Pump; Gunite Machine; Hammers (hydraulic self-propelled); Heaters***; Hydra-Spiker (ride-on); Hydraulic Pump (jacking system); Hydro-Blaster (water); Light Plants***; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Post Hole Digger (excluding hand-held); Post Driver; Power Broom (towed); Power Heaterman; Power Sweeper; Pumps***; Revinius Widener; Roller (subgrade & fill); Scarifier (ride-on); Shell Winder; Skid Steer Loader (Bobcat or similar); Span Saw (ride-on); Steam Cleaner; Tamper (ride-on); Tie Extractor (ride-on); Tie Handlers (ride-on); Tie Inserters (ride-on); Tie Spacers (ride-on); Tire Repair; Track Liner (ride-on); Tractor; Tractor (with towed accessories); Vacuum Machine (self-propelled); Vibratory Compactor; Vibro Tamp; Welding Machines***; Well Point.

***CLASS C NOTE: Considered Hands-Off(unmanned). Includes only operation and maintenance of the equipment.

Per hour:	07/01/2025
CLASS A1*	$ 58.38
CLASS A	55.38
CLASS B	54.68
CLASS C	51.81

(*) TONNAGE PREMIUMS:
All cranes up to 64 ton capacity - A1 rate
All cranes 65 ton to 110 ton capacity - A1 rate plus $ 1.50
All cranes 111 ton to 199 ton capacity - A1 rate plus $ 2.00
All cranes 200 ton to 399 ton capacity - A1 rate plus $ 3.00
All cranes 400 ton to 599 ton capacity - A1 rate plus $ 4.00
All cranes 600 ton to 799 ton capacity - A1 rate plus $ 5.00

All cranes 800 ton to 999 ton capacity - A1 rate plus $ 6.00
All cranes 1000 ton capacity and over - A1 rate plus $ 7.00

(**) Tower Cranes - A1 rate plus $3.00 (no tonnage premiums apply)

- Cranes in Luffer Configuration - A1 rate plus $ 5.00.
- Cranes with external ballast (Tray or Wagon) - A1 rate plus $ 5.00.

Additional $2.50 per hour for hazardous waste removal work on a State and/or Federally designated waste site which requires employees to wear Level C or above forms of personal protection.

SHIFT WORK
Additional $2.50 per hour for all employees who work a single irregular work shift starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 36.03

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

NOTE: If a holiday falls on Sunday, it will be celebrated on Monday.

REGISTERED APPRENTICES
WAGES: (1000) hour terms at the following percentage of Journeyworker's CLASS B wage.

1st term	60%
2nd term	70%
3rd term	80%
4th Term	90%

Additional $2.50 per hour for hazardous waste removal work on a State and/or Federally designated waste site which requires employees to wear Level C or above forms of personal protection.

SUPPLEMENTAL BENEFITS per hour: Same as Journeyworker

7-158-832H

Operating Engineer - Survey Crew — 03/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew **DISTRICT** 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.
Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES
These rates apply to Building, Tunnel and Heavy Highway.

Per hour:
SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.
Instrument Person - One who operates the surveying instruments.
Rod Person - One who holds the rods and assists the Instrument Person.

	07/01/2025
Party Chief	$ 52.91
Instrument Person	48.67
Rod Person	36.29
Additional $3.00/hr. for Tunnel Work	
Additional $2.50/hr. for Hazardous Work Site	

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 30.10

OVERTIME PAY
See (B, E, P, *X) on OVERTIME PAGE
*Note: $25.10/Hr. Only for "ALL" premium hours paid when worked.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: 1000 hour terms based on the Percentage of Rod Persons Wage:

	07/01/2025
0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFIT per hour worked:

0-1000	$ 21.88 / PHP $18.03
1001-2000	24.90 / " 20.45
2001-3000	27.93/ " 22.93

NOTE: PHP is premium hours paid when worked.

12-158-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer — 03/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT** 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.
Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES
These rates apply to feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:
SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.
Instrument Person - One who operates the surveying instruments.
Rod Person - One who holds the rods and assists the Instrument Person.

	07/01/2025
Party Chief	$ 52.91
Instrument Person	48.67
Rod Person	36.29

Additional $3.00/hr. for Tunnel Work.
Additional $2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 30.10

OVERTIME PAY
See (B, E, Q, *X) on OVERTIME PAGE
*Note: $25.10/Hr. Only for "ALL" premium hours paid when worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: 1000 hour terms based on percentage of Rod Persons Wage:

	07/01/2025
0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFIT per hour worked:

0-1000	$ 21.88 / PHP $18.03
1001-2000	$ 24.90 / " 20.45
2001-3000	$ 27.93 / " 22.93

NOTE: PHP is premium hours paid when worked.

12-158-545 DCE

Operating Engineer - Tunnel — 03/01/2026

JOB DESCRIPTION Operating Engineer - Tunnel **DISTRICT** 7

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: Northern part of Dutchess, to the northern boundary line of the City of Poughkeepie, then due east to Route 115 to Bedell Road, then east along Bedell Road to VanWagner Road, then north along VanWagner Road to Bower Road, then east along Bower Road to Rte. 44 east to Rte. 343, then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains, to the borderline of the State of Connecticut.
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES
CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled slipform); Concrete Pump (8" or over); Dredge; Dual Drum Paver; Excavator; Front End Loader (4 cu. yd & over); Gradall; Head Tower (Sauerman or Equal); Hoist (shaft); Hoist (two or three Drum); Log Chipper/Loader (self-feeder); Maintenance Engineer (shaft and tunnel); any Mechanical Shaft Drill; Mine Hoist; Mining Machine(Mole and similar types); Mucking Machine or Mole; Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Machine; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, they shall be an Oiler); Tripper/Maintenance Engineer (shaft & tunnel); Tractor Drawn Belt-Type Loader; Tug Operator (manned rented equipment excluded); Tunnel Shovel.

CLASS B: Automated Central Mix Concrete Plant; Backhoe (topside); Backhoe (track mounted, rubber tired); Backhoe (topside); Bituminous Spreader and Mixer, Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Cage Hoist; Central Mix Plant(non-automated); all Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (tractor mounted); Front End Loader (under 4 cu. yd.); Grayco Epoxy Machine; Hoist (One Drum); Hoist (2 or 3 drum topside); Knuckle Boom material handler; Kolman Plant Loader & similar type Loaders (if employer requires another person to clean the screen or to maintain the equipment, they shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maintenance Engineer (topside); Maintenance Grease Man; Mixer (for stabilized base-self-propelled); Monorail Machine; Plant Engineer; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Machine; Shovel (topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Vacuum Machine (mounted or towed); Welder; Winch; Winch Cat.

CLASS C: A Frame Truck; All Terrain Telescoping Material Handler; Ballast Regulator (ride-on); Compressors (4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 or any type combination)); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; Fork Lift; Grout Pump (over 5 cu. ft.); Gunite Machine; Hammers (hydraulic-self-propelled); Hydra-Spiker (ride-on); Hydra-Blaster (water); Hydro-Blaster; Motorized Form Carrier; Post Hole Digger and Post Driver; Power Sweeper; Roller grade & fill); Scarifer (ride-on); Span-Saw (ride-on); Submersible Electric Pump (when used in lieu of well points); Tamper (ride-on); Tie-Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on); Track Liner (ride-on); Tractor with towed accessories; Vibratory Compactor; Vibro Tamp, Well Point.

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors (3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (3 or less or any type or combination)); Concrete Saw (self-propelled); Form Tamper; Greaseman; Hydraulic Pump (jacking system); Junior Engineer; Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broom (towed); Power Heaterman (when used for production); Revinius Widener; Shell Winder; Steam Cleaner; Tractor.

Per hour:	07/01/2025
CLASS A	$ 58.44
CLASS B	57.22
CLASS C	54.43
CLASS D	51.42

Additional $5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection.

CRANES:
Crane 1: All cranes, including self-erecting.
Crane 2: All Lattice Boom Cranes and all cranes with a manufacturer's rating of fifty (50) ton and over.
Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks.

Crane 1	$ 62.44
Crane 2	61.44
Crane 3	60.44

SUPPLEMENTAL BENEFITS
Per hour:
$ 25.90
+ 10.10*

* This portion of the benefits subject to SAME PREMIUM as shown for overtime wages.

OVERTIME PAY
See (B, B2, E, Q, X) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
WAGES:(1000) hours terms at the following percentage of Journeyworker's Class B wage.

1st term	60%
2nd term	65%
3rd term	70%
4th term	75%

SUPPLEMENTAL BENEFITS per hour: Same as Journeyworker

7-158-832TL.

Painter 03/01/2026

JOB DESCRIPTION Painter **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Erie, Genesee, Niagara, Orleans, Wyoming

PARTIAL COUNTIES
Cattaraugus: Entire County except the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.
Chautauqua: Only the Townships of Awkright, Dunkirk, Hanover, Pomfret, Portland, Sheridan and Villenova.
Livingston: Only the Townships of North Dansville, Nunda, Ossian,Portage, Sparta, Spring Water and West Sparta.
Steuben: Only the Townships of Avoca, Canisteo, Cohocton, Dansville,Fremont, Greenwood, Hartsville, Hornellsville, Howard, Jasper, Prattsburg, Pulteney, Troupsburg, Tuscarora, Urbana, Wayland, Wayne, Woodhull, West Union, Wheeler, and the City of Hornell.

WAGES

Per hour:	07/01/2025	05/01/2026 Additional
Basic Rate (Brush & Roll)	$ 33.00	$ 1.93
Spray painting, wallcovering	33.00	1.93
Abrasive and hydroblasting	33.00	1.93
Taping/DryWall Finisher	34.00	2.13
Skeleton Steel*	33.75	1.93

* Skeleton Steel: No floors, walls or ceiling are constructed, including radio and television towers, flagpoles, smokestacks and cranes.

SUPPLEMENTAL BENEFITS
Per hour:

Basic Rate (Brush & Roll) Spray painting, wallcovering Abrasive and hydroblasting and Skeleton Steel	$ 28.51
Taping/Drywall Finisher	$ 28.81

OVERTIME PAY
Exterior work only See (B, E2, E4, F, R) on OVERTIME PAGE.
All other work See (B, F, R) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Painter/Decorator: 750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 18.00	$ 19.00	$ 20.00	$ 21.00	$ 22.00	$ 23.00	$ 24.00	$ 25.00

Taper/Drywall Finisher: 750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th
$ 20.00	$ 21.00	$ 22.00	$ 23.00	$ 24.00	$ 25.00

Supplemental benefits per hour:

Painter/Decorator and Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 3.35	$ 5.35	$ 6.35	$ 6.85	$ 7.35	$ 7.85	$ 8.35	$ 8.60

3-4-Buf, Nia, Olean

Painter 03/01/2026

JOB DESCRIPTION Painter **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2025	05/01/2026 Additional
Bridge	$ 46.19	$ 2.50
Tunnel	46.19	
Tank*	44.19	

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

*Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

SHIFT WORK
Note an additional $1.50 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS
Per hour:
$ 31.51

OVERTIME PAY
Exterior work only See (B, E2, E4, F, R) on OVERTIME PAGE.
All other work See (B, F, R) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th
$ 24.00	$ 26.00	$ 28.00	$ 30.00	$ 34.00	$ 38.00

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
$ 6.60	$ 6.95	$ 7.30	$ 7.65	$ 8.00	$ 8.35

3-4-Bridge, Tunnel, Tank

Painter 03/01/2026

JOB DESCRIPTION Painter **DISTRICT** 2

ENTIRE COUNTIES
Chemung, Schuyler

PARTIAL COUNTIES
Steuben: Only the Townships of Addison, Bath, Bradford, Cameron, Campbell, Caton, Corning, Erwin, Hornby, Lindley, Rathbone and Thurston

WAGES
Per hour:

	07/01/2025	05/01/2026 Additional
Painter	$ 26.13	$ 2.25*
Taper, Paperhangers, and Vinyl hangers	27.44	2.31*

*To be allocated at a later date.

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
- Additional $ 1.00 per hour for Spray Work (does not apply to application of water-based coatings to walls)
- Additional $ 1.00 per hour for Swing Chair or Swing Scaffold
- Additional $ 2.00 per hour for Steeplejack
- Additional $ 1.00 per hour for Sand Blasting
- Additional $ 1.00 per hour for Acid or High Pressure Wash
- Additional $ 1.25 per hour for Structural Steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.
- Additional $ 1.25 per hour for Epoxy-brush or roll (solvent base only)
- Additional $ 2.00 per hour for Drywall Machine Operator

NOTE - SEE BRIDGE PAINTER RATES FOR BRIDGES & TANKS

SUPPLEMENTAL BENEFITS
Per hour:
Journeyworker $ 24.03

OVERTIME PAY
See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
A Holiday that falls on a Sunday will be celebrated on Monday, a holiday that falls on a Saturday will be celebrated on Friday.

REGISTERED APPRENTICES
WAGES:

Painter: 750 hour terms at the Painter Apprentice wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 18.00	$ 18.50	$ 19.00	$ 19.50	$ 20.00	$ 21.00	$ 22.00	$ 23.00

Taper: 750 hour terms at the following Journeyworker Taper Apprentice wage rate:

1st	2nd	3rd	4th	5th	6th
$ 20.00	$ 20.50	$ 21.00	$ 21.50	$ 22.00	$ 23.00

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
- Additional $ 1.00 per hour for Spray Work (does not apply to application of water-based coatings to walls)
- Additional $ 1.00 per hour for Swing Chair or Swing Scaffold
- Additional $ 2.00 per hour for Steeplejack
- Additional $ 1.00 per hour for Sand Blasting

- Additional $ 1.00 per hour for Acid or High Pressure Wash
- Additional $ 1.25 per hour for Structural Steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.
- Additional $ 1.25 per hour for Epoxy-brush or roll (solvent base only)
- Additional $ 2.00 per hour for Drywall Machine Operator

SUPPLEMENTAL BENEFITS per hour:
Painter/Decorator:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 6.10	$ 7.10	$ 8.10	$ 9.20	$ 11.00	$ 11.00	$ 13.00	$ 13.64

Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th
$ 6.10	$ 7.10	$ 8.10	$ 10.00	$ 13.00	$ 13.73

2-178 E

Painter - Metal Polisher 03/01/2026

JOB DESCRIPTION Painter - Metal Polisher **DISTRICT** 8

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2025
Metal Polisher	$ 40.33
Metal Polisher*	41.43
Metal Polisher**	44.33

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS
Per Hour: 07/01/2025

Journeyworker:
All classification $ 13.44

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:
One (1) year term at the following wage rates:

	07/01/2025
1st year	$ 20.17
2nd year	22.18
3rd year	24.20
1st year*	$ 20.56
2nd year*	22.62
3rd year*	24.74
1st year**	$ 22.67
2nd year**	24.68
3rd year**	26.70

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year	$ 8.94
2nd year	8.94
3rd year	8.94

8-8A/28A-MP

Plumber 03/01/2026

JOB DESCRIPTION Plumber **DISTRICT** 5

ENTIRE COUNTIES
Livingston, Monroe, Ontario, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Alfred, Almond, Andover, Birdsall, Burns, Grove, Independence, that portion of Scio which lies east of RT. 19, Ward, Wellsville, W. Almond and Willing
Genesee: Only the Townships of Bergen, Bethany, Byron, Leroy, Pavillion and Stafford.
Orleans: Only the Townships of Albion, Barre, Carlton, Clarendon, Gaines, Kendall and Murray.
Seneca: Only the Townships of Fayette, Junius, Ovid, Romulus, Seneca Falls, Tyre, Varick and Waterloo.
Steuben: Only the Townships of Avoca, Cameron, Canisteo, Cohocton, Dansville, N. Dansville,Freemont, Greenwood, Hartsville, City of Hornell, Hornelsville, Howard, Jasper, Pulteney, Prattsburg, Rathbone, Troopsburg, Tuscarora, W. Union, Wayland, Wheeler and Woodhull.
Wayne: Only the Townships of Arcadia (Newark), Galen (Clyde), Huron, Macedon, Marion, Lyons, Ontario, Palmyra, Rose, Sodus, Walworth and Williamson.

WAGES

Per hour	07/01/2025
Plumber	$ 42.68
Steamfitter	42.68

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyman	$ 27.88

NOTE-$ 5.50 of this amount must be paid at the same premium as the wage for overtime hours.

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE
Site work & New const. See (B,E,E2,Q) on OVERTIME PAGE.

All other work See (B,E,Q) on OVERTIME PAGE.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
One year terms at the following percentage of Journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.
50%	55%	59%	66%	75%

Supplemental Benefits per hour:

1st year	$ 8.93
2nd year	12.09 *
3rd year	13.68**
4th year	15.57***
5th year	18.64****

*NOTE-2nd year $0.83 of this amount must be paid at the same premium as the wage for overtime hours.
**NOTE-3rd year $1.10 of this amount must be paid at the same premium as the wage for overtime hours.
***NOTE-4th year $1.49 of this amount must be paid at the same premium as the wage for overtime hours.
****NOTE-5th year $2.64 of this amount must be paid at the same premium as the wage for overtime hours.

5-13-SF

Plumber 03/01/2026

JOB DESCRIPTION Plumber **DISTRICT** 6

ENTIRE COUNTIES
Chemung, Cortland, Onondaga, Schuyler, Tompkins

PARTIAL COUNTIES
Madison: Only the Townships of Sullivan, Cazenovia and DeRuyter.

Seneca: Only the Townships of Covert and Lodi.
Steuben: Only the Townships of Addison, Bath, Bradford, Campbell, Caton, Corning, Erwin, Hornby, Lindley, Pulteney, Rathbone, Thurston, Tuscarora, Urbana and Wayne.
Tioga: Only the Townships of Barton, Berkshire, Candor, Nichols, Richford, Spencer and Tioga.

WAGES

Per hour:	07/01/2025	05/01/2026 Additional
Plumber, Steamfitter, Pipefitter, Welder, HVAC, Refrigeration.	$ 48.26	$ 4.50*

* To be allocated at a later date.

SHIFT WORK
SINGLE IRREGULAR WORK SHIFT: Additional 15% premium added to the wage rate above for a single irregular work shift starting between 4:30PM and 7:00AM.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 28.15*

*NOTE: $10.27 of the supplemental benefits are paid at the same premium as shown for overtime work performed at semi-conductor manufacturer and/or fabrication plants.

OVERTIME PAY
Time and one half for the 9th & 10th hours Monday thru Friday and first 10 hours on Saturday. All other overtime hours are double time.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If a holiday falls on Saturday, the holiday will be observed on the preceding Friday. If a holiday falls on Sunday, it will be observed on the following Monday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of the Journeyworker's wage:

1st	2nd	3rd	4th	5th
55%	60%	70%	75%	85%

SUPPLEMENTAL BENEFITS per hour*:

1st	$ 15.87
2nd	24.67
3rd	25.30
4th	25.89
5th	26.90

*NOTE: Below is the portion of supplemental benefits paid at overtime premiums for work performed at semi-conductor manufacturer and/or fabrication plants:

1st	n/a
2nd	$ 8.58
3rd	8.77
4th	9.14
5th	9.71

6-81-SF

Roofer — 03/01/2026

JOB DESCRIPTION Roofer **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Chenango, Delaware, Otsego, Schoharie, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:	07/01/2025
Roofer, Waterproofer	$ 30.33 + 1.02*

*This amount is paid for all hours worked, whether regular or premium hours.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):

- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional $1.90 per hour premium. This premium is not for use in emergency repair situations.
- Premium of $1.25 per hour will be paid for the application, rip-off or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.
- Premium of $1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 23.99

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages:

Hours per term	
0-667 Hrs.	$ 21.24 + 0.71*
668-1335 Hrs.	22.76 + 0.76*
1336-2002 Hrs.	24.27 + 0.81*
2003-2669 Hrs.	25.79 + 0.86*
2670-3336 Hrs.	27.30 + 0.92*
3337-4000 Hrs.	28.82 + 0.97*

*This amount is paid for all hours worked, whether regular or premium hours.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):
- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional $1.90 per hour premium. This premium is not for use in emergency repair situations.
- Premium of $1.25 per hour will be paid for the application, rip-off or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.
- Premium of $1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

Supplemental Benefits:

0-667 Hrs.	$ 19.93
668-1335 Hrs.	20.62
1336-2002 Hrs.	21.29
2003-2669 Hrs.	21.96
2670-3336 Hrs.	22.65
3337-4000 Hrs.	23.32

2-203elmi

Sheetmetal Worker — 03/01/2026

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 2

ENTIRE COUNTIES
Allegany, Broome, Chemung, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES
Per hour:

	07/01/2025	05/01/2026 Additional	05/01/2027 Additional
Sheetmetal Worker	$ 39.74 + 0.99*	$ 4.00**	$ 4.00**

NOTE: Ten cents ($0.10) per hour additional premium to be paid when working polyresin fiberglass.
*Amount is paid for every hour worked (amount not subject to overtime premium)
**To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker:	$ 22.41

OVERTIME PAY
See (*B1, Q) on OVERTIME PAGE
*On Saturday, time and one half of the hourly rate for the first ten (10) hours, then two (2) times the hourly wage rate for all hours after ten (10) hours worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Holidays are observed on the Holiday, not on the day that it is locally observed.

REGISTERED APPRENTICES
WAGES per hour:
Indentured after 05/01/2025 (1-year Terms):

1st	2nd	3rd	4th	5th
$ 23.84	$ 25.83	$ 27.82	$ 31.79	$ 33.78
+0.60*	+0.65*	+0.70*	+0.79*	+0.84*

Indentured prior to 05/01/2025 (Half Year Terms):

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 23.84	$ 23.84	$ 25.83	$ 27.82	$ 29.81	$ 31.79	$ 33.78	$ 35.77
+0.60*	+0.60*	+0.65*	+0.70*	+0.75*	+0.79*	+0.84*	+0.89*

*Amount is paid for every hour worked (amount not subject to overtime premium)

SUPPLEMENTAL BENEFITS per hour:
Indentured after 05/01/2025:

1st	2nd	3rd	4th	5th
$ 2.12	$ 18.64	$ 18.72	$ 18.88	$ 22.17

Indentured prior to 05/01/2025:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 2.12	$ 2.12	$ 18.64	$ 18.72	$ 18.80	$ 18.88	$ 18.97	$ 19.05

2-112

Sprinkler Fitter — 03/01/2026

JOB DESCRIPTION Sprinkler Fitter **DISTRICT** 1

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES
Per hour 07/01/2025

Sprinkler Fitter $ 45.06

SUPPLEMENTAL BENEFITS
Per hour

Journeyworker $ 29.41

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES
Wages per hour

One Half Year terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 23.28	$ 25.98	$ 28.15	$ 30.31	$ 31.94	$ 34.64	$ 36.81	$ 38.97	$ 41.14	$ 43.30

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 9.57	$ 9.57	$ 21.49	$ 21.49	$ 21.74	$ 21.74	$ 21.74	$ 21.74	$ 21.74	$ 21.74

1-669

Teamster - Building — 03/01/2026

JOB DESCRIPTION Teamster - Building **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Cortland, Delaware, Onondaga, Seneca, Tompkins, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Alfred, Almond, Burns.
Chenango: Only the Townships of Afton, Bainbridge, Coventry, Greene, Guilford, Oxford and Smithville.
Madison: Only the Townships of Cazenovia, DeRuyter, Fenner, Georgetown, Lenox, Nelson and Sullivan.
Oswego: All Townships except Boylston, Redfield and Sandy Creek.
Otsego: Only the Townships of Butternuts, Laurens, Maryland, Millford, Morris, Oneonta, Otego, Unadilla, and Worchester.
Steuben: Only the Townships of Canisteo, Cohoctan, Dansville, Fremont, Greenwood, Hornell, Hartsville, Jasper, Prattsburg, Troupsburg, and West Union.
Tioga: Only the Townships of Berkshire, Candor, Newark Valley, Nichols, Owego, Richford, and Tioga. All territory east of Nichols/Smithboro to Broome County, within the State of New York.

WAGES
GROUP A: Straight Trucks.
GROUP B: Tractor Trailer, Farm Tractor, Fuel Truck.
GROUP C: Euclid.
GROUP D: On site Mechanic.

Per hour:	07/01/2025
Building: (under $ 5 million*)	
GROUP A, B, C, D	$ 34.43
Building: (over $ 5 million*)	
GROUP A, B	$ 35.48
GROUP C	35.83
GROUP D	35.63

* Total project cost including General Construction, Plumbing, HVAC and Electrical

SUPPLEMENTAL BENEFITS
Per hour:

(under $5 million*)	$ 30.87
(over $5 million*)	31.67

* Total project cost including General Construction, Plumbing, HVAC and Electrical

OVERTIME PAY
(D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

6-317

Teamster - Building / Heavy&Highway **03/01/2026**

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT** 7

ENTIRE COUNTIES
Chemung, Livingston, Monroe, Ontario, Schuyler, Wayne

PARTIAL COUNTIES
Genesee: Only in the townships of Oakfield, Elba, Batavia, Byron, Alexander, Bethany, Pavilion, Leroy, Stafford, and Bergen.
Orleans: Only in the townships of Gaines, Carlton, Barre, Kendall, Murray, Clarendon, and Albion.
Steuben: Only the Townships of: Addison, Avoca, Bath, Bradford, Cameron, Campbell, Caton, Corning, Erwin, Hornby, Howard, Lindley, Pulteney, Rathbone, Thurston, Tuscarora, Urbana, Wayland, Wayne, Wheeler, and Woodhull.
Tioga: Only from Nichols/Smithboro towards the City of Elmira (west).
Wyoming: Only in the townships of Attica, Orangeville, Wethersfield, Eagle, Genesee Falls, Castile, Ganesville, Perry, Warsaw, Middlebury, Covington, and Pike.

WAGES
*NOTE - THIS RATE APPLIES ONLY TO MILLING OPERATIONS (ASPHALT or CONCRETE) WHEN MATERIALS ARE TO BE REMOVED FROM THE PROJECT SITE.

Per hour:	07/01/2025	07/01/2026
Teamster - Mill Rate	$ 27.50	$ 28.50

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 12.96	$ 13.17

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

7-118-Mill

Teamster - Building / Heavy&Highway — 03/01/2026

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT** 7

ENTIRE COUNTIES
Chemung, Livingston, Monroe, Ontario, Schuyler, Wayne

PARTIAL COUNTIES
Genesee: Only in the townships of Oakfield, Elba, Batavia, Byron, Alexander, Bethany, Pavilion, Leroy, Stafford, and Bergen.
Orleans: Only in the townships of Gaines, Carlton, Barre, Kendall, Murray, Clarendon, and Albion.
Steuben: Only the Townships of: Addison, Avoca, Bath, Bradford, Cameron, Campbell, Caton, Corning, Erwin, Hornby, Howard, Lindley, Pulteney, Rathbone, Thurston, Tuscarora, Urbana, Wayland, Wayne, Wheeler, and Woodhull.
Tioga: Only from Nichols/Smithboro towards the City of Elmira (west).
Wyoming: Only in the townships of Attica, Orangeville, Wethersfield, Eagle, Genesee Falls, Castile, Ganesville, Perry, Warsaw, Middlebury, Covington, and Pike.

WAGES
GROUP #1: Warehousemen*, Yardmen*, Truck helpers, Pickups, Panel trucks, Flatboy material trucks (straight jobs), Single Axle dump trucks, Dumpsters, Material Checkers/Receivers*, Greasers, Tiremen, Mechanics Helpers/Parts Chasers.
GROUP #2: Tandems and Batch Trucks, Mechanics.
GROUP #3: Semi-trailers, Low-Boy trucks, Asphalt distributor trucks, and Agitator, Mixer trucks and Dumpcrete type vehicles, Truck mechanic, Fuel trucks.
GROUP #4: Articulated off-road material hauler, Specialized earth moving equipment, Euclid type, or similar off-highway equipment, where not self-loaded, Straddle (Ross) carrier, and self-contained concrete mobile truck.
GROUP #5: Off-highway Tandem back-dump, Twin engine equipment and double-hitched equipment where not self-loaded.

*NOTE - Applies when a temporary warehouse structure is built/utilized specifically for a public work project.

Per hour:	07/01/2025	07/01/2026
GROUP #1	$ 31.39	$ 33.59
GROUP #2	31.44	33.64
GROUP #3	31.49	33.69
GROUP #4	31.64	33.84
GROUP #5	31.79	33.99

Additional $1.50 per hour for hazardous waste removal work on a City, County, State and/or Federal Designated waste site and regulations require employee to use or wear personal protection.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.77	$ 27.94

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

7-118

Teamster - Heavy&Highway — 03/01/2026

JOB DESCRIPTION Teamster - Heavy&Highway **DISTRICT** 6

ENTIRE COUNTIES
Cayuga, Cortland, Seneca, Tompkins, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Almond, Alfred, Burns.
Steuben: Only the Townships of Canisteo, Cohocton, Dansville, Freemont, Greenwood, Hartsville, Hornell, Jasper, Prattsburg, Troupsburg, and West Union.

WAGES

GROUP 1: Warehousemen*, Yardmen*, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers & Receivers*, Greasers, Truck Tiremen, Mechanic Helpers and Parts Chasers, Tandems & Batch Trucks, Mechanics, Semi-Trailers, Low-boy Trucks, Asphalt Distributor Trucks and Agitator, Mixer Trucks and Dumpcrete type vehicles, Truck Mechanic, Fuel Trucks.

*NOTE: Applies when a temporary warehouse structure is built/utilized specifically for a public work project.

GROUP 2: Specialized Earth Moving Equipment-Euclid type, or similar off-highway equipment, where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck, Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Group 3: Fuel trucks that require a HazMat license endorsement.

Per hour:	07/01/2025	07/01/2026	07/01/2027
GROUP 1	$ 37.27	$ 40.62	$ 44.28
GROUP 2	37.47	40.82	44.48
GROUP 3	42.27	45.62	49.28

SHIFT WORK
A single irregular work shift can start any time between 5:00pm and 1:00am. All employees who work a single irregular shift on governmental mandated night work shall be paid an additional $ 5.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour:	07/01/2025	07/01/2026	07/01/2027
Journeyworker	$ 29.29	$ 29.94	$ 30.78

OVERTIME PAY
See (*B, B3, J, X) on OVERTIME PAGE
*Time and one half also applicable after the 5th day worked.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

6-317(Syr)

Welder — 03/01/2026

JOB DESCRIPTION Welder **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour	07/01/2025
Welder:	To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

(AA)	Time and one half of the hourly rate after 7 and one half hours per day
(A)	Time and one half of the hourly rate after 7 hours per day
(B)	Time and one half of the hourly rate after 8 hours per day
(B1)	Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
(B2)	Time and one half of the hourly rate after 40 hours per week
(B3)	Time and one half of the hourly rate after 40 straight hours per week
(C)	Double the hourly rate after 7 hours per day
(C1)	Double the hourly rate after 7 and one half hours per day
(D)	Double the hourly rate after 8 hours per day
(D1)	Double the hourly rate after 9 hours per day
(E)	Time and one half of the hourly rate on Saturday
(E1)	Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
(E2)	Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E3)	Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
(E4)	Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E5)	Double time after 8 hours on Saturdays
(F)	Time and one half of the hourly rate on Saturday and Sunday
(G)	Time and one half of the hourly rate on Saturday and Holidays
(H)	Time and one half of the hourly rate on Saturday, Sunday, and Holidays
(I)	Time and one half of the hourly rate on Sunday
(J)	Time and one half of the hourly rate on Sunday and Holidays
(K)	Time and one half of the hourly rate on Holidays
(L)	Double the hourly rate on Saturday
(M)	Double the hourly rate on Saturday and Sunday
(N)	Double the hourly rate on Saturday and Holidays
(O)	Double the hourly rate on Saturday, Sunday, and Holidays
(P)	Double the hourly rate on Sunday
(Q)	Double the hourly rate on Sunday and Holidays
(R)	Double the hourly rate on Holidays

(S)	Two and one half times the hourly rate for Holidays
(S1)	Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
(T)	Triple the hourly rate for Holidays
(U)	Four times the hourly rate for Holidays
(V)	Including benefits at SAME PREMIUM as shown for overtime
(W)	Time and one half for benefits on all overtime hours.
(X)	Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

(1)	None
(2)	Labor Day
(3)	Memorial Day and Labor Day
(4)	Memorial Day and July 4th
(5)	Memorial Day, July 4th, and Labor Day
(6)	New Year's, Thanksgiving, and Christmas
(7)	Lincoln's Birthday, Washington's Birthday, and Veterans Day
(8)	Good Friday
(9)	Lincoln's Birthday
(10)	Washington's Birthday
(11)	Columbus Day
(12)	Election Day
(13)	Presidential Election Day
(14)	1/2 Day on Presidential Election Day
(15)	Veterans Day
(16)	Day after Thanksgiving
(17)	July 4th
(18)	1/2 Day before Christmas
(19)	1/2 Day before New Years
(20)	Thanksgiving
(21)	New Year's Day
(22)	Christmas
(23)	Day before Christmas
(24)	Day before New Year's
(25)	Presidents' Day
(26)	Martin Luther King, Jr. Day
(27)	Memorial Day
(28)	Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12226

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone Fax

E-Mail:

2. NY State Units (see Item 5).

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO ☐ (check if new or change)
Name and complete address:

Telephone Fax

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

☐ New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title

Description of Work

Contract Identification Number

Note: For NYS units, the OSC Contract No.

6. Location of Project:
Location on Site

Route No/Street Address

Village or City

Town

County

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Fuel Delivery
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Does this project comply with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: https://apps.labor.ny.gov/EDList/searchPage.do

For inquiries please call 518-457-5589.

NYSDOL Bureau of Public Work Debarment List 03/13/2026

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5754	0369 CONTRACTORS, LLC		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL	*****5784	A.J.M. TRUCKING, INC.		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL		AKHLAQ OULAKH		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		ALEXANDER DELISA		411 THEODORE FREMND SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL	*****8387	AMERICAN PAVING & MASONRY, CORP.		8 FOREST AVE GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL	*****8654	AMERICAN PAVING, INC.		8 FORREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO GARCIA		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL		ANGELO STANCO		8 FOREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL		ANTHONY CASALE		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL		ANTHONY MONGELLI		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	DA	*****2404	BJA RENOVATION, CORP		33 DOLLARD DR NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL	*****5078	BLACK RIVER TREE REMOVAL, LLC		29807 ANDREWS ROAD BLACK RIVER NY 13032	10/17/2023	10/17/2028
DOL	DOL		C.M.C CONTRACTORS, INC.		500 WEST PUTNAM AVE SUITE 400GREENWICH CT 06830	09/03/2025	09/03/2030
DOL	DOL	*****5161	CALADRI DEVELOPMENT CORP.		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	*****3391	CALI ENTERPRISES, INC.		1223 PARK STREET PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL		CARLOS F. ESCOBAR		411 THEODORE FREMD AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		CARLOS FIGUEROA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****4155	CASA BUILDERS, INC.	FRIEDLANDER CONSTRUCTION	64 N PUTT CONNERS ROAD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	AG	*****7247	CENTURY CONCRETE CORP		2375 RAYNOR ST RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL		CESAREO TULA		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****2292	CHAMPION MAINTENANCE CONTRACTORS, INC.		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	NYC	*****2117	CHARAN ELECTRICAL ENTERPRISES		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHRISTOPHER PEROSI		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****2281	CORRAO TRUCKING, INC.		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		CRAIG JOHANSEN		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL	*****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL		DANIEL DELISA		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027

DOL	DOL		DARWIN PEGUESE		6400 BALTIMORE NATIONAL SUITE 602CANTONSVILLE NY 21228	10/24/2024	10/24/2029
DOL	DOL		DAVID FRIEDLANDER		64 NORTH PUTT CORNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL		DENISE NAGLE		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		DINA TAYLOR		64 N PUTT CONNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	AG		EDWIN HUTZLER		23 NORTH HOWELLS RD BELLPORT NY 11713	08/04/2021	08/04/2026
DOL	DA		EDWIN HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****2337	EGL DRAINAGE SOLUTION & REPAIRS LLC		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL		EMIL KISZKO		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION CORP.		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION LLC		4192 SIR ANDREW CIRCLE DOYLESTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL		EUGENIUSZ "GINO" KUCHAR		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		FREDERICK HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****2998	G.E.M. AMERICAN CONSTRUCTION CORP.		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DA		GIOVANNA TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		GIOVANNI NAPOLITANO		2501 BAYVIEW AVENUE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DA	*****0213	GORILLA CONTRACTING GROUP, LLC		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DA	*****4760	GTX CONSTRUCTION ASSOCIATES, CORP		2501 BAYVIEW AVE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DOL		HENRY WICKE A/K/A HENRY WICKE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****6961	HUNTER ELEVATOR COMPANY, INC.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL	*****2397	ISLAND BREEZE MARINE, INC.		6400 BALTIMORE NATIONAL CANTONSVILLE MD 21228	10/24/2024	10/24/2029
DOL	DOL	*****5010	J. LINDSLEY ENTERPRISE, LLC		1002 STATE ROUTE 176 FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****0241	J. LINDSLEY ROOFING, LLC		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		J.M.J CONSTRUCTION		151 OSTRANDER AVENUE SYRACUSE NY 13205	11/21/2022	11/21/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	12/12/2022	12/12/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028

DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JAMES J. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL		JAMES LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****7993	JBS DIRT, INC.		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****2435	JEFFEL D. JOHNSON	JMJ7 AND SON	5553 CAIRNSTRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION		C2 EVERGREEN CIRCLE LIVERPOOL NY 13090	11/21/2022	11/21/2027
DOL	DOL	*****2435	JEFFREY M. JOHNSON	JMJ7 AND SON	5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JENNIFER LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JERRY DASTON		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JIM PLAUGHER		17613 SANTE FE LINE ROAD WAYNEFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		JMJ7 & SON CONSTRUCTION, LLC		5553 CAIRNS TRAIL LIVERPOOL NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 AND SONS CONTRACTORS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS		7014 13TH AVENUE BROOKLYN NY 11228	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS AND SONS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS, LLC		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JOHN MARKOVIC		47 MANDON TERRACE HAWTHORN NJ 07506	03/29/2021	03/29/2026
DOL	DOL		JOHN NAGLE A/K/A JOHN NAGLE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JONATHAN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE FIGUEROA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE RAMOS		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	01/30/2026	01/30/2031
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL		JOSEPH HALL		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL	*****2271	JOSEPH HALL COMPANIES LLC		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOSEPH K. SALERNO II		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		JRN CONSTRUCTION CO, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028

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DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KATE E. CONNOR		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KEAN INDUSTRIES, LLC		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL	*****2959	KELC DEVELOPMENT, INC		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KEVIN FUNEZ URBINA A/K/A KEVIN FUNEZ		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KIMBERLY F. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****8760	KJ&J CONSTRUCTION, LLC		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KMA GROUP II, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL	*****1833	KMA GROUP INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KMA INSULATION, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KRIN HEINEMANN		2345 ROUTE 52, SUITE 2N HOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	NYC		KULWANT S. DEOL		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****3716	LIGHTNIN ELECTRIC INC.		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	AG	*****3291	LINTECH ELECTRIC, INC.		3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DOL		LIZETTE PONCE		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		LOUIS A. CALICCHIA		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		MOHAMMAD MIAN		8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	NYC		NASEER CHAUDHRY		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	DOL	*****7790	NATIONAL BUILDING & RESTORATION CORP		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****1797	NATIONAL CONSTRUCTION SERVICES, INC		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	NYC		NAVIT SINGH		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027

DOL	DOL		NELCO CONTRACTING, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DA		NICHOLAS BARNETT		33 DOLLARD DR BABYLON NY 11703	03/04/2025	03/04/2030
DOL	DOL		NICHOLAS RAO		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		NICHOLAS T. ANALITIS		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		NIKOLA NTONI		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	NYC	*****6971	NN CONSTRUCTION, INC.		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	NYC	*****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL	*****4772	R.W. LOBDELL CONSTRUCTION LLC		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		ROSA GARCIA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DOL		SAL FRESINA MASONRY CONTRACTORS, INC.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		SAL MASONRY CONTRACTORS, INC.		(SEE COMMENTS) SYRACUSE NY 13202	07/16/2021	07/16/2026
DOL	DOL	*****9874	SALFREE ENTERPRISES INC		P.O BOX 14 2821 GARDNER RDPOMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		SALVATORE A FRESINA A/K/A SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DOL		SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		SILVANO TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DOL	*****0440	SOLAR GUYS INC.		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	NYC	*****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027
DOL	DOL		STANADOS KALOGELAS		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	*****9528	STEEL-IT, LLC.		17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		STEVEN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****3800	SUBURBAN RESTORATION CO. INC.		5-10 BANTA PLACE FAIR LAWN PLACE NJ 07410	03/29/2021	03/29/2026

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DOL	DOL	*****9150	SURGE INC.		8269 21ST STREET BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED MUHAMMAD S. JAFRI A/K/A SHARRUKH JAFRI		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4855	TECH INDUSTRIES LLC		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL	*****9733	TERSAL CONSTRUCTION SERVICES INC		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13208	07/16/2021	07/16/2026
DOL	DOL		TERSAL CONTRACTORS, INC.		221 GARDNER RD P.O BOX 14POMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		TERSAL DEVELOPMENT CORP.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL	*****2426	THE MATRUKH GROUP, INC.		4307 28TH AVE PO BOX 9082ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		THOMAS LOBDELL		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL		TIMOTHY PERCY		29807 ANDREWS ROAD BLACK RIVER NY 13612	10/17/2023	10/17/2028
DOL	DA	*****1050	TRI STATE CONSTRUCTION OF NY CORP.		50-39 175TH PLACE FRESH MEADOWS NY 11365	03/28/2022	03/28/2027
DOL	DA	*****4106	TRIPLE H CONCRETE CORP		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****8485	TULA PLUMBING AND HEATING LLC		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		VINCENT CORRAO		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL	*****8266	WILLIAM CHRIS MCCLENDON	MCCLENDON ASPHALT PAVING	1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM CHRIS MCCLENDON		1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM SCRIVENS		4192 SIR ANDREW CIRCLE DOYELSTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL	*****9494	WND CONSTRUCTION LLC		411 THEODORE FREMD AVENUE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		XENOFON EFTHIMIADIS		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028

SECTION 01 10 00
SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Project identification.

B. Work covered by Contract Documents.

C. Work sequence.

D. Contractor use of premises.

E. Occupancy requirements.

1.2 RELATED REQUIREMENTS

A. Section 01 50 00 - Temporary Facilities and Controls.

1.3 PROJECT

A. Project Name: DPW Building Project
Contract Documents, dated May 27, 2026 were prepared for the Project by Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC, Airport Corporate Park, 100 HUNT Center Horseheads, NY 14845.

B. Owner's Name: Village of Hammondsport.
80 Shethar Street
Hammondsport, NY 14840

C. Architect's Name: Hunt Engineers, Architects, Land Surveyors & Landscape Architect, DPC.
Airport Corporate Park
100 Hunt Center
Horseheads, NY 14845-1019
Phone: 607-358-1000
Fax: 607-358-1800
Contact: Mike Pelino

D. The Project consists of the construction of a new pole barn structure with pole foundations and concrete floor for the storage and maintenance of municipal vehicles. Building will include full height maintenance and storage bays along with a single office, utility room, and restroom below a second floor mezzanine. Work further includes new mechanical, electrical and water services, tie in to existing septic system, and exterior improvements including, but not limited to asphalt pavement and concrete work for sidewalk, entrance pads, and fuel island to restore site for municipal use.

1.4 CONTRACT DESCRIPTION

A. The project will be constructed under a multiple Prime Contract Agreement.
1. Prime Contracts are separate contracts between the Owner and independent contractors, representing significant construction activities. Each Prime Contract is performed concurrently, and closely coordinated, with construction activities performed on the Project under other Prime Contracts.

B. Prime Contracts for this Project include:
1. Bid Prime Contracts:

a. General Trades
b. Mechanical
c. Electrical
d. Plumbing
e. The work of each separate Bid Prime Contract is identified in this section .

1.5 WORK BY OWNER

A. Existing Building Demolition: Owner has contracted for demolition of the existing fire damaged structure on site. Owner will, prior to the start of work, remove and dispose of the existing concrete floor slab.

B. Owner will furnish, as required, subbase material with delivery to site. Installation shall be by the General Trades Contractor.

1.6 OWNER OCCUPANCY

A. Owner requires access to adjacent salt storage building and adjacent portions of the existing building during the entire construction period.

B. Owner intends to occupy the Project upon Substantial Completion.

C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.
1. Prior to partial Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Owner will operate and maintain mechanical and electrical systems serving occupied portions of the building.
2. Upon occupancy, the Owner will assume responsibility for maintenance and custodial service for occupied portions of the building. However, the Owner will not clean up behind contractors; responsibility for any debris caused by contractor operations remains with the Prime Contractor.

E. The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided that such occupancy does not interfere with completion of the work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total work. Cooperate fully with the Owner or its representatives and Architect/Engineer during construction operations to minimize conflicts and facilitate owner’s usage.

1.7 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings. Do not disturb portions of the site beyond the areas in which the work is indicated.

B. Arrange use of site and premises to allow:
1. Owner occupancy.
2. Work by Others.
3. Work by Owner.

C. Provide access to and from site as required by law and by Owner:
1. Do not obstruct roadways, sidewalks, or other public ways without permit.
2. Do not use driveways, entrances or sidewalks for parking or storage of materials.
3. Keep temporary driveways and entrances serving the premises clear and available to the Owner, Architect, and emergency vehicles at all times.

D. Existing building spaces may not be used for storage.

E. Time Restrictions:
1. Work hours shall be between the hours of 7:00 AM and 4:00 PM daily, Monday through Friday, except when it interferes with the Owner’s activities.

a. Shift work between the hours of 4:00 PM and 7:00 AM, or on weekends, may occur with the permission the Owner.

2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

F. Any work that requires disruption to the occupants, entry/exits, utilities, etc shall be coordinated with and approved by the Owner.

G. Utility Outages and Shutdown:
1. Prevent accidental disruption of utility services to other facilities.

H. Construction Staging Area:
1. Contractors will be instructed to use designated staging/parking areas before start of construction.
2. All staging of equipment, trailers, storage containers, etc to be coordinated through the Owner and cannot interfere with any other Contractor's work.
3. Activity in the staging area shall be conducted in a manner that causes minimal disruption of the Owner's activities.

1.8 WORK SEQUENCE

A. All Work will be conducted in a number of continuous phases to provide the least possible interference to the activities of the Owner’s personnel and to permit the facilities to be partially utilized during implementation of the work.
1. The Contractor is expressly forewarned that impacts to the construction schedule during any phase or portion of the project will not be permitted.

B. Should overtime or second shift work be required by a Prime Contractor to ensure the completion within the specified (phased) schedule, all costs for this work is the responsibility of the Contractor. The Owner shall have the authority to direct the contractors and subcontractors to work overtime including weekends to maintain the schedule at no additional cost to the Owner. Prime Contractors warrant that the work shall be physically complete, including punch list, startup, and commissioning, within the early start and late finish schedule milestones.

C. Each Prime Contractor shall provide multiple crews to maintain project schedule. Each crew is to be furnished with its own supervision, cranes, scaffold and other means necessary to maintain the Project Schedule.

D. The intention of the work is to follow a logical sequence; however, the Prime Contractor may be required by the Owner to temporarily omit or leave out any section of his work, or perform his work out of sequence. All such out of sequence work and returning to these areas shall be at no additional cost to the Owner.

E. Each Contractor is responsible for supervision of their Sub-Contractors at all times.

1.9 REQUIREMENTS OF ALL CONTRACTS

A. Extent of Contract: Unless the Contract Documents contain a more specific description of the Work, names and terminology on Drawings and in Specification Sections determine which contract includes a specific element of Project.
1. Unless otherwise indicated, the Work described in this section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
2. Local custom and trade-union jurisdictional settlements do not control the scope of the Work of each contract. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, affected contractors shall negotiate a reasonable settlement to avoid or minimize interruption and delays.
3. Trenches, at the interior of building footprints, whether existing or planned, for the Work of each contract shall be provided by each Contractor for its own Work.

4. Cutting and patching for the Work of each contract shall be provided by each contractor for its own Work, except as outlined for trenches above.
5. Within ten (10) working days after preliminary horizontal bar-chart-type construction schedule submittal has been received from General Trades Contractor, submit a matching preliminary horizontal bar-chart schedule showing construction operations sequenced and coordinated with overall construction.

B. One set of documents is issued covering all Prime Contracts. EACH PRIME CONTRACTOR shall be responsible for all work shown on all drawings and sections for complete understanding and knowledge of the work. All Prime Contractors are responsible for all work under their contract no matter what drawing, specification or related specification in which that work appears, including drawings of other trade disciplines.

C. The Following Drawings and Specifications are specifically included and defined as integral to EACH Prime Contract:
   1. Drawings:
      a. G Series - General.
   2. Specifications:
      a. Division 00 - Procurement and Contracting Requirements
         1) All Specification Sections within this Division are owned by ALL contracts.
      b. Division 01 - General Requirements:
         1) All Specification Sections within this Division are owned by ALL contracts.
      c. Division 02 - Existing Conditions:
         1) Specification Section 02 41 00 - Demolition.
      d. Division 07 - Thermal and Moisture Protection
         1) Specification Section 07 92 00 - Joint Sealants:
            (a) All contractors to provide joint protection of their own trade's work.

D. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the Work.

E. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 01 50 00 - Temporary Facilities and Controls, each contractor is responsible for the following:
   1. The Contractors shall assist the Architect and Owner in identifying a plan detailing how exiting required by the applicable building code will be maintained, and a plan detailing how adequate ventilation will be maintained during construction.
   2. Installation, operation, maintenance, and removal of each temporary facility usually considered as its own normal construction activity, and costs and use charges associated with each facility.
   3. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
   4. Its own field office, complete with necessary furniture, utilities, and telephone service. The Contractor shall provide leveling, stone, and/or removals necessary to install Field Offices. At end of construction, when field offices are removed, each Contractor is responsible to return the area to its original condition, including any re-seeding required.
   5. Its own storage and fabrication sheds.
   6. Temporary enclosures for its own construction activities.
   7. Hoisting requirements for its own construction activities, including hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
   8. Progress cleaning of its own areas on a daily basis.
   9. Secure lockup of its own tools, materials, and equipment.
   10. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

F. Temporary Heating, Cooling and Ventilation: The HVAC Contract is responsible for temporary heating, cooling, and ventilation.

1.10 BID CONTRACT NO. 1 - GENERAL CONSTRUCTION

A. The General Trades Contractor shall be responsible for all work shown on Civil (C), Structural (S), and Architectural (A) Drawings unless noted otherwise and any site work shown on all other drawings and further defined below:
   1. Provide the complete work of Division 02 - Existing Conditions unless noted otherwise.
   2. Provide the complete work of Division 03 - Concrete.
   3. Provide the complete work of Division 06 - Wood, Plastic and Composites.
      a. Provide ALL wood blocking on this project
      b. Coordinate wood blocking with all other Primes and any Owner furnished equipment to ensure all wood blocking is in place prior to wall enclosure. Cutting and patching after wall enclosure will be at the cost of the General Contractor.
   4. Provide the complete work of Division 07 - Thermal and Moisture Protection, with the following exceptions:.
      a. Specification Sections indicated as being owned by all contracts.
   5. Provide the complete work of Division 08 - Openings as noted:
      a. Specification Section 08 36 13 - Sectional Doors
         1) Power and final connections to electrically operated sectional doors provided by Electrical Contractor.
   6. Provide the complete work of Division 13 - Special Construction.
   7. Provide the complete work of Division 31 - Earthwork with the following exceptions:
      a. Specification Section 31 23 16.13 - Trenching:
         1) Interior trenching for utilities shall be provided by Contractor requiring trench, as outlined in previous article.
         2) Provide exterior trenching for all trades.
      b. Specification Section 31 23 23 - Fill:
         1) Fill for interior trenches for utilities shall be provided by Contractor backfilling trench, as outlined in previous article.
         2) Owner shall furnish subbase material delivered to project site. Proper installation of such material shall be the responsibility of the General Trades Contract.
   8. Provide the complete work of Division 32 - Exterior Improvements
   9. Provide the complete work of Division 33 - Utilities

B. Furnish and install all labor, material, supervision, equipment, scaffolding, layout, engineering, deliveries, trucking, hoisting, rigging, shop drawings, submittals, and all other items related and required to complete all General Trades Work in accordance with the Contract Documents and all applicable codes having jurisdiction.

C. The Contractor represents they have expertise in the performance of Work for this trade and assures all items to be complete, functional and installed in accordance with the best practices consistent with premium quality material and workmanship.

1.11 BID CONTRACT NO. 2 - PLUMBING

A. The Plumbing Contractor shall be responsible for all work shown on the Plumbing (P) Drawings and any plumbing work shown on all other drawings and specifications and further defined below:
   1. Provide the complete work of Division 22 - Plumbing.

B. Furnish and install all labor, material, supervision, equipment, scaffolding, layout, engineering, deliveries, trucking, hoisting, rigging, shop drawings, submittals, and all other items related and required to complete all Plumbing Work in accordance with the Contract Documents and all applicable codes having jurisdiction.

C. The Contractor represents they have expertise in the performance of Work for this trade and assures all items to be complete, functional and installed in accordance with the best practices consistent with premium quality material and workmanship.

1.12 BID CONTRACT NO. 3 - MECHANICAL

A. The Mechanical Contractor shall be responsible for all work shown on the Mechanical (H) Drawings and any mechanical work shown on all other drawings and specifications and further defined below:
   1. Division 22 - Plumbing:
      a. Specification Section 22 10 05 - Plumbing Piping and Specialties limited to:
         1) Final connections of equipment condensate made by HVAC Contractor.
   2. Provide the complete work of Division 23 - Heating, Ventilating and Air-Conditioning (HVAC), with the following exceptions:.
      a. Specification Section 23 34 23 - HVAC Power Ventilators: Power and final connections to wall exhausters provided by Electrical Contractor.
      b. Specification Section 23 81 26.13 - Small-Capacity Split-System Air Conditioners: Power and final connections to all mechanical equipment provided by Electical Contractor.

B. Furnish and install all labor, material, supervision, equipment, scaffolding, layout, engineering, deliveries, trucking, hoisting, rigging, shop drawings, submittals, and all other items related and required to complete all Mechanical Work in accordance with the Contract Documents and all applicable codes having jurisdiction.

C. The Contractor represents they have expertise in the performance of Work for this trade and assures all items to be complete, functional and installed in accordance with the best practices consistent with premium quality material and workmanship.

1.13 BID CONTRACT NO. 4 - ELECTRICAL

A. The Electrical Contractor shall be responsible for all work shown on Electrical (E) Drawings unless noted otherwise, and any electrical work shown on all other drawings and further defined below:
   1. Division 22 - Plumbing:
      a. Specification Section 22 30 00 - Plumbing Equipment including but not limited to:
         1) Provide power and electrical connections to Plumbing equipment.
   2. Division 23 - Heating, Ventilating and Air-Conditioning (HVAC):
      a. Specification Section 23 34 23 - HVAC Power Ventilators including but not limited to:
         1) Provide electrical connections to all HVAC Power Ventilator equipment per manufacturers' requirements necessary for equipment to operate as intended.
      b. Specification Section 23 81 26.13 - Small-Capacity Split-System Air Conditioners including but not limited to:
         1) Provide power and final connections to all mechanical equipment specified, per manufacturers' requirements, necessary for equipment to operate as intended.
   3. Provide the work of Division 26 - Electrical as outlined below:
      a. Base Bid: Electrical Contractor shall provide the following as part of their Base Bid:
         1) Complete and operational electrical service, including but not limited to all associated interior/exterior service entrance equipment/connections per utility requirements, along with the connection to and furnishing of all interior power distribution infrastructure equipment. All panel boards to include circuit breakers required for project, whether for Base Bid or Alternate work.
         2) Homerun Power and final connections, as indicated on drawings, to the following:
            (a) All electrically operated overhead door openers.
            (b) All plumbing equipment specified in Division 22 for complete operating systems.
            (c) All mechanical equipment specified in Division 23 for complete operating systems.
            (d) Fuel pump circuit including low-voltage transformer, lockable switch, emergency shutoff, as well as ground loop at fuel island.
            (e) Complete Float System at existing oil/water tank.
            (f) Welding circuit receptacle.
            (g) Air compressor.
            (h) Fire Alarm Control Panel and complete fire alarm system.
      b. Alternate #2: Electrical Contractor shall provide the following as part of Alternate #2:
         1) Homerun Power and final connections to all remaining electrical work, including, but not limited to convenience outlets, switches, and lighting/ plug load control systems.

4. Provide the complete work of Division 28 - Electronic Safety and Security.

B. Furnish and install all labor, material, supervision, equipment, scaffolding, layout, engineering, deliveries, trucking, hoisting, rigging, shop drawings, submittals, and all other items related and required to complete all Electrical Work in accordance with the Contract Documents and all applicable codes having jurisdiction.

C. The Contractor represents they have expertise in the performance of Work for this trade and assures all items to be complete, functional and installed in accordance with the best practices consistent with premium quality material and workmanship.

1.14 ADDITIONAL NOTES TO CONTRACT DOCUMENTS

A. The following notes are integral to each Prime Contract:
1. All bidders are forewarned to review all information of the Contract Documents.
2. Review Section 01 23 00 - Alternates for Alternate bid pricing required in Prime Contractors scope of work.
3. Review Section 01 50 00 - Temporary Facilities and Controls for work requirements of temporary construction activities in Prime Contractor's scope of work.
4. All contractors are responsible for the layout and survey of their own work or work requirements.
5. All contractors are required to construct the project per the phasing and staging plan. Specific areas of the site and building must be completed for the intended use by the Owner, at the Milestone dates so listed. All contractors shall cooperate fully with the intentions of the plan. Contractors are forewarned that any delay caused indirectly or directly by the acts, omissions, and/or failure to perform by a contractor will result in the Owner, or its agents, accomplishing the work by any means possible. The contractor causing the delay will be responsible for any and all costs associated with such issues, including Owner costs, Architect/Engineer costs, inspections, etc.
6. All Contractors shall provide any and all temporary shoring, bracing, supports or protection systems necessary to expedite the work requirements including the maintenance of worker safety.
7. All contractors are responsible for the safety of their own workers, subcontractors, work area, and other personnel on site. Each and every contractor is responsible for maintaining a safe work site and utilizing best safety procedures.
8. In case of discrepancy between the Drawings and Specifications, interpretation shall be given preference in the following order, with later dates taking precedence over earlier dates:
   a. Addenda
   b. Amendments to the Drawings and Specifications
   c. Drawings and Specifications
   d. Schedules, Piping & Wiring Diagrams take precedence over other data shown on the drawings.
   e. Notes take precedence over other data shown on the drawings, except Schedules, Piping & Wiring Diagrams.
9. If discrepancies are found between the plans and specifications, include the more costly detail to the bid price.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 COORDINATION

A. Each Prime Contractor shall coordinate scheduling and installation of work with the work of other Contractors, sub-contractors and other trades. Each Prime Contractor is also required to coordinate all work of their Contract with Owner-supplied materials, direct contacts and normal building operations.

B. Each Prime Contractor shall supply and coordinate exact locations of embedded items in concrete or masonry work with the General Contractor. Each Prime Contractor shall monitor such items throughout concrete/masonry activities to ensure proper placement.

C. MECHANICAL, ELECTRICAL, AND PLUMBING Prime Contractors shall be responsible for providing any rough opening or masonry opening dimensions to the General Trades Contractor. FOR ALL NEW WORK. MECHANICAL, ELECTRICAL, AND PLUMBING Prime Contractors shall be responsible for any rework or additional work required due to their failure to provide this information prior to the schedule start of wall construction.

D. Each Contractor shall coordinate all device and rough-in locations required with the casework shop drawings.

E. Each Contractor shall take special care in verifying that his equipment matches the characteristic of the power being supplied. The Electrical Contractor shall coordinate electrical power requirements with Each Contractor for all equipment requiring power

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Schedule of Values.

B. Applications for payments.

C. Change procedures.

1.2 RELATED REQUIREMENTS

A. Section 00 52 00 - Agreement Form: Contract Sum, retainages, payment period, monetary values of unit prices.

B. Section 00 72 00 - General Conditions: Additional requirements for progress payments, final payment, changes in the Work.

C. Section 01 30 00 - Administrative Requirements: General submittal procedures.

D. Section 01 60 00 - Product Requirements: Substitution limitations and procedures.

E. Section 01 70 00 - Execution and Closeout Requirements: Project record documents.

1.3 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.

B. Submit Schedule of Values electronically within 15 days after date of Owner-Contractor Agreement established in Notice to Proceed.

C. Include separately for each line item, the amount for materials, and the amount for labor.

D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization and bonds and insurance.

E. Provide 1% of contract value for execution of closeout documents.

F. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

G. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.

H. Revise schedule to list approved Change Orders, with each Application For Payment.

1.4 APPLICATIONS FOR PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Use Form AIA G702 and Form AIA G703, edition stipulated in the Agreement.

C. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed.

D. Submit electronically each Application for Payment.

E. Include the following with the application:
1. Transmittal letter as specified for submittals in Section 01 30 00.
2. Construction progress schedule, revised and current as specified in Section 01 32 16.
3. Partial release of liens from major subcontractors and vendors.
4. Project record documents as specified in Section 01 78 00, for review by Owner which will be returned to the Contractor.
5. Affidavits attesting to off-site stored products.
6. Certified payrolls.
7. Updated project schedule and timelines.

F. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.5 CHANGE PROCEDURES

A. Change Order Form: AIA G701 Change Order.

B. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to Contract Documents.

C. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.
1. Minor changes will be issued on AIA G710 Architect's Supplemental Instructions.

D. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
2. Promptly execute the change.

E. The Architect may issue a Proposal Request that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change. Contractor shall prepare and submit a estimated price quotation within 15 days.

F. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on work by separate or other contractors.

G. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
1. Stipulated Sum Change Order: Based on Proposal Request and Contractor's price quotation.
2. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit prices. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum or Contract Time will be computed as specified for Time and Material Change Order.
3. Construction Change Directive: Architect may issue directive, on AIA G714 Construction Change Directive signed by Owner, instructing contractor to proceed with change in the Work, for subsequent inclusion in a Change Order.
   a. Document will describe changes in the Work, and designate method of determining any change in Contract Sum or Contract Time. Promptly execute change.
4. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect will determine change allowable in Contract Sum and Contract Time as provided in Contract Documents.

a. Maintain daily detailed records of work completed on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work. Daily Time and Material tickets must be validated and signed by the Owner's Representative to be acceptable for issuance of the change order.

H. Substantiation of Costs: Provide full information for change in cost or time with sufficient data to allow evaluation of quotation.

I. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

J. Correlation of Contractor Submittals:
1. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
2. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 23 00
ALTERNATES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Description of Alternates.

B. Procedures for pricing Alternates.

1.2 RELATED REQUIREMENTS

A. Document 00 21 13 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

B. Document 00 52 00 - Agreement Form: Incorporating monetary value of accepted Alternates.

1.3 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.

1.4 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Asphalt Pavement Rehabilitation: Provide all work associated with the preparation, milling, and overlay of standard duty asphalt adjacent to existing salt barn structure, to the extents indicated on drawings, and in accordance with the contract documents.

B. Alternate No. 2: Convenience Outlets, Lighting and Lighting Control Devices: Provide all work associated with the installation of Electrical Convenience Outlets, Lighting and Lighting Control Devices. Work of this alternate shall include complete branch circuits, pathways, boxes, cabling, fixtures, wiring devices, covers, and final homerun and connections to appropriate panelboard as indicated by the contract documents.

C. Alternate No. 3: Cast-in-Place Concrete Aprons: Provide all work associated with the preparation, forming, and placement of concrete aprons at overhead doors in lieu of asphalt aprons, as indicated by the contract documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.2 RELATED REQUIREMENTS

A. Section 00 21 13 - Instructions to Bidders: Restrictions on timing of substitution requests.

B. Section 01 23 00 - Alternates, for product alternatives affecting this section.

C. Section 01 30 00 - Administrative Requirements: Submittal procedures, coordination.

D. Section 01 60 00 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

E. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Restrictions on emissions of indoor substitute products.

1.3 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

1.4 REFERENCE STANDARDS

A. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage); Current Edition.

B. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase); Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.

3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
5. Waives claims for additional costs or time extension that may subsequently become apparent.
6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

E. Limit each request to a single proposed substitution item.

3.2 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
1. Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):
1. Submit substitution requests by completing CSI/CSC Form 1.5C - Substitution Request. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.3 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
1. Submit substitution requests by completing CSI/CSC Form 13.1A - Substitution Request (After Bidding/Negotiating). See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Architect will consider requests for substitutions only within 30 days after date of Agreement.

C. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

D. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
3. Bear the costs engendered by proposed substitution of:
a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

E. Substitutions will not be considered under one or more of the following circumstances:
1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.

2. Without a separate written request.

3.4 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.5 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.6 CLOSEOUT ACTIVITIES

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

END OF SECTION

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SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and project conditions.

B. Field engineering.

C. Delegated Design

D. Preconstruction meeting.

E. Site mobilization meeting.

F. Progress meetings.

G. Superintendent's meetings.

H. Preinstallation meetings.

I. Submittal procedures.

J. Electronic submittal procedure.

1.2 RELATED REQUIREMENTS

A. Section 01 32 16 - Construction Progress Schedule: Form, content, and administration of schedules.

B. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

C. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.3 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. Coordination Document: The HVAC/Mechanical, Plumbing and Electrical Trades Contractors shall execute a coordination document identifying primary utilities in shared spaces. Circulation of the coordination document will be in the order contract trades are listed above. Conflicts in utility coordination are to be brought to the attention of the Architect/Engineer. Copies of the final coordination document will be distributed to each trade.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements. Install utilities parallel with structure and as inconspicuous as possible in exposed spaces.

F. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

G. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.4 FIELD ENGINEERING

A. Employ Land Surveyor registered in the State of New York, and acceptable to Architect.

B. Locate and protect survey control and reference points. Promptly notify Architect of discrepancies discovered.

C. Control datum for survey is shown on Drawings.

D. Verify set-backs and easements; confirm drawing dimensions and elevations.

E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit copy of site drawing and certificate signed by Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.

G. Maintain complete and accurate log of control and survey work as Work progresses.

H. On completion of foundation walls and major site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

I. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

J. Promptly report to Architect loss or destruction of reference point or relocation required because of changes in grades or other reasons.

K. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

1.5 DELEGATED DESIGN

A. All work requiring the services of a Delegated Design Professional shall be conducted by a Licensed Professional Engineer, licensed in the State of New York.

B. All items submitted by the Delegated Design Professional shall be signed and sealed by the Licensed Professional Engineer. These submittals shall include, but are not limited to:
1. Shop Drawings and details.
2. Design calculations, including loading, stresses, and connections.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award.

B. Attendance Required:
1. Owner.
2. Architect.
3. Contractor.

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
5. Submission of initial Submittal schedule.
6. Designation of personnel representing the parties to Contract and Architect.
7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.

D. Architect will record minutes and distribute copies two days after meeting to participants, with copies to participants, and those affected by decisions made.

3.2 SITE MOBILIZATION MEETING

A. Architect will schedule a meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Special consultants.
5. Contractor's superintendent.
6. Major subcontractors.

C. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner.
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Architect will record minutes and distribute copies within two days after meeting to participants, with copies to participants, and those affected by decisions made.

3.3 PROGRESS MEETINGS

A. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

C. Agenda:
   1. Review minutes of previous meetings.
   2. Review of work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of off-site fabrication and delivery schedules.
   7. Maintenance of progress schedule.
   8. Corrective measures to regain projected schedules.
   9. Planned progress during succeeding work period.
   10. Coordination of projected progress.
   11. Maintenance of quality and work standards.
   12. Effect of proposed changes on progress schedule and coordination.
   13. Other business relating to work.

D. Architect/Engineer will record minutes and distribute copies within two days after meeting to participants, with copies to participants, and those affected by decisions made.

3.4 PREINSTALLATION MEETING

A. When required in individual specification sections, convene preinstallation meeting at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, Work of specific section.

C. Notify Architect seven days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of installation, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies after meeting to participants, with copies to Architect, Owner, and those affected by decisions made.

3.5 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
   1. Submit at the same time as the preliminary schedule specified in Section - 01 32 16 - Construction Progress Schedule.
   2. Coordinate with Contractor's construction schedule and schedule of values.
   3. Format schedule to allow tracking of status of submittals throughout duration of construction.
   4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
   5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
      a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.6 COORDINATION MEETINGS

A. The Architect/Engineer will conduct Project Coordination Meetings weekly or on an "as-needed" basis. Project Coordination Meetings are in addition to specific meetings held for other purposes, such as regular Project Meetings and special Pre-Installation Meetings.

B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.

C. The Architect/Engineer will record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

3.7 SUBMITTAL

A. General:
1. Transmit each submittal with form provided by Architect/Engineer via Newforma Info Exchange.
2. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
3. Identify Project, Contractor, Subcontractor, or Supplier; pertinent drawing and detail number, and specification number, as appropriate on each copy.
4. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
5. Deliver submittals, containing samples, to Architect at Airport Corporate Park, 100 Hunt Center, Horseheads, NY 14845-1019. All other submittals to be submitted through Newforma Exchange as specified below.
6. Schedule submittals to expedite the Project, and coordinate submission of related items.
7. For each submittal for review, allow fifteen (15) days excluding delivery time to and from the Contractor.
8. Identify variations from Contract Documents and Product or System limitations that may be detrimental to successful performance of the completed Work.
9. When revised for resubmission, identify all changes made since previous submission.
10. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
11. Submittals not requested, or incomplete, will not be recognized or processed.

B. Proposed Product List:
1. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
2. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

C. Product Data: Submit to for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
1. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
2. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
3. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.

D. Shop Drawings: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
2. Do not reproduce the Contract Documents to create shop drawings.
3. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
4. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
5. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.

E. Samples: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
1. Samples For Selection as Specified in Product Sections:
a. Submit to Architect for aesthetic, color, or finish selection.

b. Submit samples of finishes from full range of manufacturers' standard colors, in custom colors selected, textures, and patterns for Architect's selection.

2. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
3. Include identification on each sample, with full Project information.
4. Submit number of samples specified in individual specification sections; Architect will retain one sample.
5. Reviewed samples which may be used in the Work are indicated in individual specification sections.
6. Samples will not be used for testing purposes unless specifically stated in specification section.
7. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.

F. Design Data
1. Submit for Architect's knowledge as contract administrator or for Owner.
2. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

G. Test Reports
1. Submit for Architect's knowledge as contract administrator or for Owner.
2. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

H. Certificates
1. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect, in quantities specified for Product Data.
2. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
3. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

I. Manufacturer's Instructions
1. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing.
2. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

J. Manufacturer's Field Reports
1. Submit reports for Architect's benefit as contract administrator or for Owner.
2. Submit report in duplicate within 30 days of observation for information.
3. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

K. Erection Drawings
1. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

3.8 ELECTRONIC SUBMITTAL PROCEDURES - NEWFORMA

A. Using the PDF cover sheet provided by the Architect, fill out the information required for the submittal. Each submittal must be provided with the submittal cover sheet.

B. Combine PDF cover sheet with product submittal. Cover sheets are to precede the product submittal information.

C. If shop drawings are over 11" x 17" in size, hard copies are to be provided.

D. Electronic submittals shall be up-loaded to the Project Team through Newforma Info Exchange. Directions to access Newforma will be provided by the Architect.

E. Notification will be automatically generated by Newforma to the Project Team when a new submittal has been created.

3.9 ARCHITECT'S/ENGINEER'S SUBMITTAL ACTION

A. Except for submittals for the record or information, where action and return is required, the Architect or his consultant will review each submittal, mark to indicate action taken, and return.
   1. Compliance with specified characteristics is the Contractor's responsibility.

B. Action Stamp: The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
   1. Final Unrestricted Release: When the Architect marks a submittal "Reviewed" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
   2. Final-But-Restricted Release: When the Architect marks a submittal "Reviewed as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
   3. Returned for Re-submittal: When the Architect marks a submittal " Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
      a. Do not use, or allow others to use, submittals marked " Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
   4. Rejected: When the Architect marks a submittal “Rejected,” do not proceed with any Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Prepare a new submittal conforming to the product characteristics specified by the contract documents; resubmit without delay. Repeat if necessary to obtain different action mark.
   5. Submit Specified Item: When submittal is marked “Submit Specified Item”, the Contractor shall immediately resubmit the specified item.

C. Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned marked “Action Not Required”.

END OF SECTION

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SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.2 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Work sequence.

1.3 SUBMITTALS

A. Within 10 days after date established in Notice to Proceed, submit preliminary schedule .

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Submit updated schedule with each Application for Payment.

D. Submit under transmittal letter form specified in Section 01 30 00 - Administrative Requirements.

1.4 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

B. Scale and Spacing: To allow for notations and revisions.

PART 2 SCHEDULE

2.1 GENERAL

A. All Work will be conducted in a "single" phase to provide the least possible interference to the activities of the Owner’s personnel and to permit the facilities to be partially utilized during implementation of the work.
   1. The Contractor is expressly forewarned that impacts to the construction schedule during any phase or portion of the project will not be permitted.
   2. Award: Anticipated mid July, 2026.
   3. Preconstruction/Submittals: July - August, 2026.
   4. Mobilize: August 2026.
   5. Construction: August through December 2026.
   6. Substantial Completion: December 31, 2026

B. Schedule of Completion: All work of this project shall be substantially completed by the date indicated, unless noted otherwise.

C. All schedules and calendars shall be used as tools in developing the project schedule.

D. Upon Notice to Proceed the overall Project CPM Schedule will be prepared by the **General Trades Contractor** as outlined in this section.

E. Start and end dates must be met.

PART 3 EXECUTION

3.1 GENERAL

A. The CPM Schedule network plan including any appropriate milestone dates and the computer produced reports shall be part of the Owner/Contractor agreement as stipulated herein.

B. All Prime Contractors shall provide all information required by the Architect/Engineer to the General Contractor for development of a network plan and schedule for this in accordance with the requirements of this section of the General Requirements.

C. The purpose of the plan and schedule will be to assure adequate planning, coordination and execution of the work of the various Prime Contractors, and to assist the Architect/Engineer in monitoring the progress of the work and evaluating proposed changes to the contract and schedule.

D. The project management tool commonly called the Critical Path Method (CPM) will be employed for the planning, scheduling and report of all work to be performed under the contract. The precedence diagramming method shall be utilized in preparing the CPM Schedule network diagrams.

E. There are other contracts and work which will run concurrently with this Contract, and may run subsequently to the work of this Contract. The project network diagram and schedule will reflect the major interfaces between the work of this Contract and the concurrent and succeeding work of the other contracts.

F. The Architect/Engineer may modify the network diagram to provide interface points for other contracts for this Project.

G. Activity time delays shall not automatically mean that an extension of the Contract Completion Date is warranted or due the Contractor. A Contract Modification or delay may not affect existing critical activities or cause noncritical activities to be become critical. A Contract Modification or delay may resulted in only absorbing part of the available total float that may exist within an activity chain on the Network, thereby not causing any effect of any interim milestone date or the Contract Completion Date.

H. Total float is defined as the amount of time between the early start date and late start date, or the early finish date and the late finish date, for each and every activity in the schedule. Float is for the exclusive use or benefit of the Owner. Extensions of time to milestone dates for the Contract Completion Date under the Contract will be granted only to the extent that is equitable time adjustments to the activity or activities affected by the Contract Modification or delay exceeds the total float of the affected or subsequent paths and extends any interim milestone date or the Contract Completion Date.

3.2 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

B. To the extent necessary for the General Trades Contractor to reflect in a computerized CPM Schedule network diagram each Prime Contractor’s proposed plan for completion of their work, all Prime Contractors shall be prepared to meet with and assist the General Contractor, and furnish information subsequent to award of the contract.

C. Within (3) calendar days following the Contract Issuance, the Architect/Engineer will meet with the Prime Contractors and conduct a review of the Prebid Milestone/phasing to assure their understanding of said project schedule requirements and contractual milestone dates.

D. Within four (4) calendar days after the meeting to review the Milestone/Phasing Schedule, all Prime Contractors will provide their proposed plans of operation to the General Contractor. The Contractor's plan of operations shall consist of, but not limited to, the following:
   1. List of proposed Construction Activities.
   2. List of proposed Durations of Construction Activities (in workdays).
   3. List of Dependency Relationships of Construction Activities.
   4. List of proposed Durations for major procurement items (in workdays).
   5. Proposed Sequencing of Construction Activities.

E. The Architect/Engineer, the General Trades Contractor and each Prime Contractor will meet and jointly review the CPM project schedule, based on the General Contractor's proposed plan and sequences of operation. Any areas of such plans which, in the opinion of the Architect/Engineer, will conflict with timely completion of the project will be subject to revision by the General Contractor unless adequate justification for these plans, durations and logic (as determined by Architect/Engineer) is provided by the Prime Contractor within (10) calendar days of the Architect/Engineer's notice to the Prime Contractor of the Architect/Engineer's intent to revise the schedule. At these meetings, the General Contractor and the Prime Contractors, with the aid of the Architect/Engineer, will manually construct a precedence diagram describing the activities to be accomplished, their dependency relationships and their durations. The General Contractor will then, using the manual precedence diagram, prepare a computer produced schedule showing starting and completion dates for each activity.

F. In preparing the manual precedence diagram, each Prime Contractor will be responsible for assuring that any/all subcontractor work, as well as their own work, is included and that the diagram shows a coordinated plan of work.

G. The manually prepared precedence diagram, when fully developed, will show the sequence and interdependence of activities required for complete performance of all the work under all of the Prime Contracts. In developing the precedence diagram, the work will be divided into activities with a maximum duration of twenty (20) working days each, unless otherwise directed by the Architect/Engineer, except for non-construction activities such as procurement of materials, delivery of equipment, and concrete curing.

H. Proposed durations assigned to each activity shall reflect each Prime Contractor's best estimate of time required to complete activity considering the scope and resources planned for activity.

I. Failure by the General Contractor, and of the Prime Contractors or Architect/Engineer to include the element of work required for performance of the contract shall not excuse the Prime Contractors from completing all their work within the Contract Completion Date. If the Architect/Engineer questions any of the Prime Contractor's proposed durations, the Prime Contractor shall within ten (10) calendar days provide estimates of their labor and intended crew and/or equipment sizes required for the activity which support the proposed duration to the satisfaction of the Architect/Engineer.

J. Seasonal weather conditions will be considered in the planning and scheduling of all work influenced by high or low ambient temperatures to insure the completion of all contract work within the allotted contract time milestone completion dates.

3.3 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification section number.

C. Identify work of separate stages and other logically grouped activities.

D. Provide sub-schedules to define critical portions of the entire schedule.

E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.

G. Provide legend for symbols and abbreviations used.

3.4 BAR CHARTS

A. Include a separate bar for each major portion of Work or operation.

B. Identify the first work day of each week.

3.5 REVIEW AND EVALUATION OF SCHEDULE

A. Within seven (7) calendar days after receipt of the computer produced CPM Schedule and reports provided by the General Contractor, each Prime Contractor shall meet with the Architect/Engineer, if required, for joint review, correction, or adjustment of the proposed plan and schedule; After these joint meetings, the computer produced CPM Schedule and report will be revised in accordance with agreements reached during the joint reviews. Final review and acceptance by the Owner will take place after all Prime Contractors have approved the revised CPM Schedule.

B. Upon establishment of an agreed upon schedule, each Prime Contractor will sign the CPM Schedule network drawings and computer produced reports, which will then indicate the acceptance and approval of the project schedule, sequence of activities and times for completion. Acceptance of the approved project schedule by all Prime Contractors and the Architect/Engineer will be a condition precedent to the making of any partial payments under the Contract.

C. Participate in joint review and evaluation of schedule with Architect at each submittal.

D. Evaluate project status to determine work behind schedule and work ahead of schedule.

E. After review, revise as necessary as result of review, and resubmit within 10 days.

3.6 UPDATING SCHEDULE

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Annotate diagrams to graphically depict current status of Work.

D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

E. Indicate changes required to maintain Date of Substantial Completion.

F. Submit reports required to support recommended changes.

G. The Approved Project Schedule will be updated by the General Contractor and reviewed by the Architect/Engineer on a monthly basis for the purpose of recording and monitoring the progress of work. The Prime Contractors shall meet with the Architect/Engineer each month to review actual progress made to date, dates of activities started and completed, and the percentage of work completed to date on each activity started but not completed.

H. Upon completion of the joint reviews, the General Contractor will revise the network to reflect progress to date plus any approved revisions to the network, and carry out a computer calculation to determine status which will be provided to each Prime Contractor.

I. Based on the result of the monthly progress update, when the schedule no longer represents the actual prosecution and progress of the work, a revision to the schedule logic sequence and the precedence diagram may be required by the Architect/Engineer or requested by the Prime Contractors.

J. A Prime Contractor may also request revisions to the logic sequence and precedence diagram in the event their planning for the project is revised. If a Prime Contractor desires to make changes in the Approved Project Schedule to reflect revisions in their method of operating and scheduling, they shall notify the Architect/Engineer in writing stating the reasons for the proposed revision.

K. If a revision to the schedule logic sequence is contemplated, a Prime Contractor or the Architect/Engineer shall so advise the other in writing at least two (2) weeks prior to the next Schedule Update meeting, describing the revision and setting forth the reasons therefore.

L. All reasonable requests by the Prime Contractors for revisions will be implemented by the Architect/Engineer if not reasonably objected to by any of the other Prime Contractors.

M. Architect/Engineer directed revisions to the schedule will not be implemented without written notice to the Prime Contractors, who shall respond within ten (10) days, either agreeing with the Architect/Engineer's proposed revision or setting forth justification why it should not be accomplished. If the Prime Contractor's justification for not accomplishing the change is reasonable, such change will not be implemented.

N. Updating the schedule to reflect actual progress made up to the date of an update shall not be considered revisions to logic sequence and schedule; in case of disagreements concerning actual progress to date, the Architect/Engineer's determination shall govern.

O. If a Prime Contractor does not record any exceptions to the published Project Schedule update within ten (10) calendar days of its receipt, they will be deemed to have accepted and approved it.

3.7 RESPONSIBILITY FOR COMPLETION

A. Each Prime Contractor shall furnish sufficient forces, plant and equipment, and shall work such hours including night shift and overtime operations, as necessary to ensure the prosecution of the work in accordance with the current monthly update of the Project Schedule. If, in the opinion of the Architect/Engineer, a Prime Contractor falls behind in meeting the schedule as presented in the current monthly update, the Contractor shall take such steps as may be necessary to improve their progress, and the Architect/Engineer may require them to increase the hours of work, the number of shifts, overtime operations and/or the amount of construction plant and equipment without additional cost to the Owner or Architect/Engineer. All additional expenses incurred by the Owner and Architect/Engineer due to such work will be deducted from the amount due the Prime Contractor. The provisions of this section shall not be construed as prohibiting work on Saturdays, Sundays and holidays if the Prime Contractor so elects and if approved by the Architect/Engineer.

B. Failure of a Prime Contractor to comply with the requirements of this subsection shall be a basis for determination by the Owner that the Prime Contractor is not prosecuting the work with such diligence as will ensure completion within the time stipulated. Upon such determination, the Owner may terminate the Prime Contractor's right to proceed with the work or any separable part thereof, in accordance with the provisions of the General Conditions, or may take such other actions as may be deemed appropriate.

C. It shall be the responsibility of all Prime Contractors to maintain their progress so as not to delay the progress of the project or the progress of other Prime Contractors. If a Prime Contractor delays the progress of the projected or the progress of other Prime Contractors, it shall be the responsibility of Prime Contractor causing the delay to increase the number of shifts, days of work, and/or to the extent permitted by law, to institute or increase overtime operations all without additional cost to the Owner to regain the time lost and to maintain the over schedule. Each Prime Contractor is required by virtue of this Contract to cooperate in every way possible with all other Prime Contractors in order to maintain the scheduled completion date. No additional compensation will be considered for such cooperation.

3.8 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 33 29.07
PROHIBITED CONTENT INSTALLER CERTIFICATION

PROJECT NAME: DPW BUILDING PROJECT; NO.: 1130-010.

USE OF THIS FORM

1.1 BECAUSE INSTALLERS ARE ALLOWED AND DIRECTED TO CHOOSE ACCESSORY MATERIALS SUITABLE FOR THE APPLICABLE INSTALLATION, THERE IS A POSSIBILITY THAT SUCH ACCESSORY MATERIALS MIGHT CONTAIN VOC CONTENT IN EXCESS OF THAT PERMITTED, ESPECIALLY WHERE SUCH MATERIALS HAVE NOT BEEN EXPLICITLY SPECIFIED.

1.2 CONTRACTOR IS REQUIRED TO OBTAIN AND SUBMIT THIS FORM FROM EACH INSTALLER OF WORK ON THIS PROJECT.

1.3 FOR EACH PRODUCT CATEGORY LISTED, CIRCLE THE CORRECT WORDS IN BRACKETS: EITHER [HAS] OR [HAS NOT].

1.4 IF ANY OF THESE ACCESSORY MATERIALS HAS BEEN USED, ATTACH TO THIS FORM PRODUCT DATA AND SDS SHEET FOR EACH SUCH PRODUCT.

1.5 VOC CONTENT RESTRICTIONS ARE SPECIFIED IN SECTION 01 61 16.

PRODUCT CERTIFICATION

2.1 I CERTIFY THAT THE INSTALLATION WORK OF MY FIRM ON THIS PROJECT:

A. [HAS] [HAS NOT] required the use of ADHESIVES.

B. [HAS] [HAS NOT] required the use of JOINT SEALANTS.

C. [HAS] [HAS NOT] required the use of PAINTS OR COATINGS.

D. [HAS] [HAS NOT] required the use of COMPOSITE WOOD or AGRIFIBER PRODUCTS.

2.2 ___ LIST OF PRODUCTS OF THESE TYPES THAT WERE USED IS ATTACHED, WITH MANUFACTURER AND BRAND NAME.

2.3 ___ PRODUCT DATA AND SDS SHEETS FOR THESE PRODUCTS:

A. ___ Are attached.

B. ___ Were submitted as normal submittals.

C. ___ Were submitted as sustainable design submittals using the Material Content Form.

CERTIFIED BY: (INSTALLER/MANUFACTURER/SUPPLIER FIRM)

3.1 FIRM NAME: _____

3.2 PRINT NAME: _____

3.3 SIGNATURE: _____

3.4 TITLE: _____ (OFFICER OF COMPANY)

3.5 DATE: _____

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. References and standards.

B. Testing and inspection agencies and services.

C. Control of installation.

D. Tolerances.

E. Manufacturers' field services.

F. Defect Assessment.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.3 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2023).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2026.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2025.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2023.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2025b.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2026.

G. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components; 2016.

H. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2025.

1.4 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

G. Definitions:
1. General: Basic contract definitions are included in the Conditions of the Contract.
2. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. Location is not limited.
3. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Architect, requested by the Architect, and similar phrases.
4. "Approved": The term "approved," when used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
5. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
6. "Furnish": The term "furnish" means supply and deliver to the Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.
7. "Install": The term "install" describes operations at the Project Site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
8. Product: The term “product” refers to materials, systems and equipment.
9. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
10. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.
a.

The term "experienced," when used with the term "installer," means having a minimum of 5 previous projects similar in size and scope to this project, being familiar with the special requirements indicated, and having complied with requirements of authorities having jurisdiction.

b. Trades: Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trade persons of the corresponding generic name.
c. Assigning Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no option. However, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.
1) This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade-union jurisdictional settlements and similar conventions.

11. “Project Site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
12. "Replace": Used herein as a term contraction and unless specifically noted means "remove existing and provide new".
13. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

H. Specification Format and Content Explanation:
1. Specification Format: These Specifications are organized into Divisions and Sections based on the CSI-04 -Division format and Master Format numbering system.
2. Specification Content: This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
   a. Specifying Methods: The techniques or methods of specifying to record requirements varies throughout text and may include “prescriptive”, “open generic-descriptive”, “compliance with standards”, “performance”, “proprietary” or a combination of these. The method used for specifying one unit of work has no bearing on requirements for another unit of work.
   b. Abbreviated Language: Language used in Specifications and other Contract Documents are abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated, as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
   c. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
      1) The words "shall be" are implied where a colon (:) is used within a sentence or phrase.
   d. Overlapping and Conflicting Requirements: Where compliance with two or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent is intended and will be enforced, unless specifically detailed language written into contract documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to the Architect for a decision before proceeding.
   e. Minimum Quality/Quantity: In every instance, the quality level or quantity shown or specified is intended to be the minimum for the work to be performed or provided. Except as otherwise specifically indicated, the actual work may either comply exactly with the minimum (within specified tolerances), or may exceed that minimum (within reasonable limits). In complying with these requirements, indicated numeric values are either minimums or maximums as noted or as appropriate for context of the requirements. Refer instances of uncertainty to the Architect for decisions before proceeding.
   f. Specialists, Assignments: In certain instances, specification of text (requires or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the contractor has no choice or option. These requirements should not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the work; they are also not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party of entity involved in a specific unit of work is recognized as “expert” for the indicated construction process or operation. Nevertheless, the final responsibility for fulfillment of the entire set of requirements remains with the Contractor.
3. Conflict: If there be conflicting variance between the Drawings and the Specifications, the provisions of the Specifications shall control. In case of conflict on the drawings between larger and small scale details and plans, the larger scale plans and details shall control.

I. Industry Standards:
   1. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
   2. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.
   3. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
      a. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.

1.5 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent inspection agency and testing associated with such special inspections where required by Code.
   1. See Section 01 45 33 - Code-Required Special Inspections and Procedures.

B. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing and inspection.

C. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

D. Contractor Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
   2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
   3. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
   4. Laboratory: Authorized to operate in the State of New York.
   5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.3 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect 15 days in advance of required observations.
1. Observer subject to approval of Architect.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.4 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

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SECTION 01 41 13
CODES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Building Code Standards

1.2 RELATED REQUIREMENTS

A. Section 01 40 00 - Quality Requirements: References and Standards.

1.3 SUMMARY OF BUILDING CODE STANDARDS

A. The design of this project conforms to all applicable provisions of, and Work shall be performed in accordance with the following:
   1. The New York State Uniform Fire Prevention and Building Code (the "Uniform Code"), comprised of the following Titles; including, but not limited to:
      a. 2025 Building Code Of New York State (BCNYS).
      b. 2025 Existing Building Code of New York State (EBCNYS).
      c. 2025 Fire Code of New York State (FCNYS).
      d. 2025 Fuel Gas Code of New York State (FGCNYS).
      e. 2025 Mechanical Code of New York State (MCNYS).
      f. 2025 Plumbing Code of New York State (PCNYS).
      g. NFPA 70 - National Electric Code: Latest edition adopted by Authority Having Jurisdiction.
   2. The 2025 Energy Conservation Construction Code of New York State (ECCCNYS).

B. Where any reference is made within the Contract Documents to "applicable code" regarding the Design, Product, or Work of this project, applicable code shall be the appropriate code, herein referenced, current at time of contract document issuance.

C. Should any reference be made to previously adopted codes, standards, or regulations contrary to the foregoing, the most current version adopted, at time of document issuance, shall govern.

D. In the event of conflicting provisions between two referenced codes, standards, or regulations, the more stringent shall prevail.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

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SECTION 01 45 33
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Code-required special inspections.

B. Submittals.

1.2 ABBREVIATIONS AND ACRONYMS

A. AHJ: Authority Having Jurisdiction.

B. IAS: International Accreditation Service, Inc.

C. NIST: National Institute of Standards and Technology.

D. EOR: Engineer of Record.

1.3 DEFINITIONS

A. Code or Building Code: ICC (IBC), International Building Code, most recent edition adopted by authority having jurisdiction, including all applicable amendments and supplements without limitation, and specifically Chapter 17 - Special Inspections and Tests.

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Special Inspections and Tests: Inspections and testing of materials, installation, fabrication, erection, or placement of components and connections mandated by Building Code to safeguard public welfare.
   1. Special inspections and tests are separate from and independent of tests and inspections conducted by Owner or Contractor for purposes of quality assurance and contract administration.

1.4 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to special inspections are the following:
   1. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the 2020 Building Code of New York State.

B. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2025.

C. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291; 2025, with Editorial Revision.

D. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.5 GENERAL REQUIREMENTS

A. The program of Special Inspection and Structural Testing is a Quality Assurance program intended to ensure that the work is performed in accordance with the Contract Documents.

B. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Special Inspector, Testing Laboratory, and other Agents of the Special Inspector of their requirements and responsibilities.

C. The Special Inspector shall be the individual in charge of the Special Inspection program. The Special Inspector shall supervise and review the work of the Testing and Inspection Agents for each testing or Inspection task. The Special Inspector shall be a licensed Engineer in the State where the inspection and testing work is to be performed.

1.6 SUBMITTALS

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

B. Special Inspection Reports: After each special inspection, Special Inspector is required to submit a special inspection report within seven days. Copies of all special inspection reports shall be sent to Owner, Architect and the EOR.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of Special Inspector.
      d. Date and time of special inspection. Include ambient weather conditions.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of special inspection, including applicable Reference Standard(s).
      h. Date of special inspection.
      i. Results of special inspection, indicating:
         1) Compliance with contract documents.
         2) Identification of discrepancies, if any, and indication that the Contractor was made aware of discrepancies.
   2. Any discrepancies from the Contract Documents found during a Special Inspection shall be immediately reported to the Contractor. If the discrepancies are not corrected, the Special Inspector shall notify the EOR and Code Enforcement Officer. Reports shall document all discrepancies identified and the corrective action taken.

C. Interim Reports:
   1. The Special Inspector shall submit interim reports to the Code Enforcement Officer at the end of each week which include all inspections and test reports received that week. Copies shall be sent to the EOR, Architect, and Contractor.
   2. The Inspection and Testing Agents shall immediately notify the Special Inspector and the EOR by telephone or fax of any test results which fail to comply with the requirements of the Contract Documents.

D. Final Special Inspection Report: Document special inspections and correction of discrepancies prior to the issuance of a Certificate of Use and Occupancy.
   1. The Final Report of Special Inspections will certify that all required inspections have been performed and will itemize any discrepancies that were not corrected or resolved.

E. Fabricator Special Inspection Reports: After each special inspection of fabricated items at the Fabricator's facility, Special Inspector is required to submit a special inspection report within seven days. Copies of all special inspection reports shall be sent to Owner, Architect, EOR, Contractor, and the AHJ.

F. Test Reports: After each test or inspection, Testing Agency is required to submit report to Architect and to AHJ.

1.7 SPECIAL INSPECTION AND TESTING AGENCY

A. Owner shall employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code.

B. Owner may employ services of an independent testing agency to perform additional testing and sampling associated with special inspections but not required by the building code.

C. Special Inspection Agency may delegate to independent testing agency to perform testing and sampling associated with special inspections and required by building code.

1.8 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.
   2. Accredited by IAS according to IAS AC291.
   3. The Special Inspector shall be a licensed Professional Engineer or Structural Engineer who is approved by the Engineer of Record (EOR) and Code Enforcement Officer.
   4. The Special Inspector shall verify the qualifications of each Inspection and Testing Agent comply with Section 1704.2.1 - Special inspector qualifications, and shall provide documentation of each Agent to the Owner, Engineer of Record (EOR), and Code Enforcement Official.
   5. Special Inspections shall be performed by inspectors who are either licensed Professional Engineers (P.E.), Structural Engineers (S.E.), or Engineers-In-Training (EIT) with an education and background in structural engineering except as indicated below.
      a. Special Inspections of soils and foundations may be performed by inspectors with an education and background in geotechnical engineering in lieu of a background in structural engineering.
      b. Technicians performing sampling and testing of concrete shall be ACI certified Concrete Field Testing Technicians - Grade 1.
      c. Inspectors performing inspections of concrete work such as inspections of concrete placement, batching, reinforcing placement, curing and protection, may be ACI certified Concrete Construction Inspectors or ICBO certified Reinforced Concrete Special Inspector in lieu of being a licensed P.E., S.E., or EIT.
      d. Inspectors performing inspections of prestressed concrete work may be ICBO/BOCA/SBCCI certified Prestressed Concrete Special Inspector.
      e. Inspectors performing inspections of masonry may be ICBO certified Structural Masonry Special Inspector.
      f. Technicians performing visual inspection of welding shall be AWS Certified Welding Inspectors or ICBO certified Structural Steel and Welding Special Inspectors, technicians performing non-destructive testing such as ultrasonic testing, radiographic testing, magnetic particle testing, or dye-penetrant testing shall be certified as an ASNT-TC Level II or Level III technician.
      g. Inspectors performing inspections of spray fireproofing shall be ICBO certified Spray-Applied Fireproofing Special Inspector.
      h. Technicians performing standard tests described by specific ASTM Standards shall have training in the performance of such tests and must be able to demonstrate either by oral or written examination competence for the test to be conducted. They shall be under the supervision of a licensed Professional Engineer and shall not be permitted to independently evaluate test results.

B. Testing Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.
   2. Accredited by IAS according to IAS AC89.

3. The Testing Laboratory shall maintain a full time licensed Professional Engineer or Structural Engineer on staff who shall certify all test reports. The Engineer shall be responsible for the training of the testing technicians and shall be in responsible charge of the field and laboratory testing operations.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 SPECIAL INSPECTIONS AND TESTING

A. The Code requires special inspections and testing of certain materials, components, assemblies, and connections used in constructing the project. Special inspections and testing will be performed in accordance with the Code.

3.2 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Statement of Special Inspections:
1. The Statement of Special Inspections will be prepared by the Engineer of Record (EOR). Refer to the attached forms.
2. The Statement of Special Inspections shall be submitted with the application for Building Permit.
3. Required inspections and tests are described in the attached Schedule of Special Inspections and in the individual Specification Sections for the items to be inspected or tested.

3.3 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
1. Notify the Contractor of their presence on the jobsite at the start of any required inspection or test.
2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified reference standards.
4. Ascertain compliance of materials and products with requirements of Contract Documents.
5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
6. Perform additional tests and inspections required by Architect.
7. Submit reports of all tests or inspections specified.

B. Limits on Special Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the work.
3. Agency may not assume any duties of Contractor.
4. Agency shall not have control over Contractor's means and methods of construction.
5. Agency shall not be responsible for construction site safety.
6. Agency has no authority to stop the work.

C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.4 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:

1. Review the Statement of Special Inspections and shall be responsible for coordinating and scheduling inspections and tests.
2. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
3. Cooperate with agency and laboratory personnel; provide access to latest set of approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
    a. The Contractor shall provide adequate OSHA-compliant access for the Special Inspector and their Inspection and Testing Agents for them to perform their work. This includes access to pipe scaffolds, swing-stage scaffolds, and any other methods of accessing the work areas that the Contractor or its agents require to perform the work of the Contract.
    b. The Contractor shall be solely responsible for construction site safety.
4. Provide incidental labor and facilities:
    a. To provide access to work to be tested or inspected.
    b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
    c. To facilitate tests or inspections.
    d. To provide storage and curing of test samples.
5. Notify Architect and Testing Agency 48 hours prior to expected time for operations requiring testing or inspection services.
    a. Un-inspected work that required inspection may be rejected solely on that basis.
6. The Contractor shall acknowledge each item listed as a discrepancy by the Special Inspection program in writing to the Owner, Architect and Engineer. The acknowledgement shall identify whether or not the discrepancy has been corrected, is in compliance with the contract documents, and is ready for re-inspection.
7. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
8. When special inspections are required at a material plant, the Contractor shall be responsible for the travel expenses of the Special Inspectors when the fabrication plant is not within 100 miles of the project.

3.5 ATTACHMENTS - SEE STATEMENT OF SPECIAL INSPECTION IMMEDIATELY FOLLOWING THIS SECTION

END OF SECTION

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SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This Section specifies requirements for temporary construction, utilities, facilities, and controls required to support the successful construction of the Project and maintain services until the permanent utilities, facilities, and controls are complete. They shall be installed, maintained, and removed as required to meet project conditions and contract requirements.
   1. General
      a. Quality Assurance
      b. Project Conditions
      c. Installation
   2. Environmental
      a. Environmental Protection, NPDES, and PPC
      b. Excavation
      c. Storm Sewers
      d. Dewatering Facilities
   3. Materials & Equipment
      a. Deliveries
      b. Material Inventories
      c. Materials
      d. Equipment
   4. Utilities
      a. Use charges.
      b. Temporary electricity.
      c. Temporary telecommunications services.
   5. Facilities
      a. Temporary sanitary facilities.
   6. Construction Aids & Protection
      a. Protection
      b. Lifts and Hoists
   7. Temporary Controls: Barriers, enclosures, and fencing .
   8. Enclosures
      a. Barricades, Warning Signs, and Lights
   9. Security requirements.
   10. Vehicular Considerations.
      a. Access, Staging & Parking
      b. Traffic Regulations
   11. Waste removal and progress cleaning.
   12. Field offices.
   13. Operation, Termination & Removal
   14. Protection of Property

1.2 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary.

1.3 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

C. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.4 GENERAL

A. Quality Assurance
1. Regulations: Comply with industry standards and applicable laws and regulations of Authorities having jurisdiction, including but not limited to:
a. New York State Uniform Fire Prevention and Building Code.
b. Health and safety regulations.
c. Utility company regulations.
d. Police, Fire Department and Rescue Squad rules.
e. Environmental protection regulations.
2. Inspections: Arrange for Authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits. Submit copies to the Owner through the Architect/Engineer.

B. Project Conditions
1. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit to interfere with progress. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site. Remove, relocate and replace temporary facilities and controls as required by the progress of the Work, or as requested by the Owner or Architect/Engineer. The above will be done at no cost to the Owner.
2. No firearms, alcoholic beverages, tobacco products or controlled substances shall be allowed on the Project at any time per local, state and federal laws/regulations. Any violators will be immediately and permanently removed from the job site.

C. Installation
1. Use of qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
2. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

1.5 ENVIRONMENTAL

A. Environmental Protection, NPDES and PPC
1. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner and Architect/Engineer, their employees and agents, from claims, losses, damage, and expenses including, but not limited to, attorney’s fees arising out of performance of the Work as it relates to any type of pollution related situations. This would apply to bodily injury, sickness, disease or death, or to damages or destruction or contamination of tangible property arising out of the acts or omission of the Contractor or the joint negligent acts of the Owner and Architect/Engineer, or anyone for whose acts the Contractor may be liable.
2. The General Trades Contractor, prior to construction, must comply with the National Pollution Discharge Elimination System (NPDES) and submit and coordinate State and Local Preparedness, Prevention and Contingency Plans (PPC) with the Architect/Engineer before the start of work.
3. Area must be provided and maintained by each Prime Contractor to provide protection for each individual worker, as well as the protection of property or real estate of the construction site and environment.

4. Each Contractor shall provide protection, operate temporary facilities, and conduct construction in ways and methods that comply with all environmental regulations, and minimize the possibility that air, water, and soil become contaminated or polluted as a result of work or storage of supplies and materials, or equipment usage.
5. Each Contractor will designate and train a responsible employee in environmental contamination procedures, including, but not limited to, emergency responses, material and waste inventories, spills and leak precautions and responses, inspections, housekeeping, security and external factors.
6. Open burning shall not be permitted.
7. The General Trades Contractor is responsible for dust control of the entire site as to eliminate the spread of dust to adjacent spaces within the building as well as to neighboring properties. A dust control plan shall be coordinated with the Architect/Engineer.

B. Excavation
1. Material Protection: Any Contractor performing excavation shall protect all excavated materials from moisture, freezing and drying, so that the same materials excavated can be utilized for backfill.
2. Shoring: The General Trades Contractor shall provide shoring for all excavations that require same per OSHA standards. Shoring must be coordinated by Each Contractor with the General Trades Contractor.

C. Storm Sewers
1. If storm sewers are available; the General Trades Contractor shall provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available, or cannot be used, The General Trades Contractor shall provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used or discharge of effluent, provide containers to remove and dispose of effluent off site in lawful manner.
2. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
3. Comply with the soil erosion and sedimentation control plan and Authorities having jurisdiction.

D. Dewatering Facilities
1. For temporary drainage and dewatering facilities, and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable codes and Authorities having jurisdiction. Where feasible, utilize the same facilities. The General Trades Contractor shall be responsible to maintain the site, excavations and construction free of water, unless noted otherwise.
2. The General Trades Contractor shall be responsible to drain or pump water and remove debris from the site so as not to delay continuous work or progress of their work. This shall include operating pumps during second shift in order to facilitate next-day continuation of work.
3. The General Trades Contractor shall excavate in a manner that prevents all surface water from flowing into the building area. The General Trades Contractor shall continue to drain site and remove debris until designed grades are obtained.
4. Once building excavation grades are complete, The General Trades Contractor shall be responsible to remove all water and debris to install the building foundations.
5. Upon completion of building foundations, The General Trades Contractor shall be responsible to remove water and debris required to complete the work.

1.6 MATERIALS AND EQUIPMENT

A. Deliveries
1. Contractors shall coordinate delivery and storage on the jobsite of all significant materials.
2. All Contractors are required to properly instruct material suppliers and vendors to address deliveries to them specifically by named responsible party at the jobsite and require advance notice.
3. All deliveries addressed to the project in general, the Owner or Architect/Engineer shall be refused and returned to the shipper.

4. The Owner will not be responsible for receipt, handling, or loss of any materials which are shipped to the Owner in error and received unknowing of relationship to the Project.
5. Contractors shall provide their superintendent with a telephone to enable locating the superintendent on and off site.

B. Material Inventories
1. Contractors shall coordinate the delivery and storage on the jobsite of all significant materials.
2. Each Contractor shall be responsible for the proper location, security, and weather resistant storage as required of all materials. This includes placement of materials not to obstruct passage on site or within building structures or in any way which causes impediment or obstruction to the Work.
3. All material inventories must be stored by the Contractor to avoid excessive loads on building structure.
4. When required for the progress of the project, a Contractor shall remove or relocate material inventories.

C. Materials
1. General: Only new, undamaged materials in serviceable condition may be used. Provide materials suitable for the use intended.
2. Lumber and Plywood: Comply with requirements in Section 06 10 00 - Rough Carpentry.
3. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride fire retardant tarpaulins. Each Contractor shall provide tarpaulins as required for their work.
4. Water: Each Contractor shall provide potable drinking water for their workers approved by local health authorities.

D. Equipment
1. General: Only new equipment, or undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
2. Water Hoses: Each Contractor requiring water shall provide their own ¾" heavy-duty, abrasion-resistant, flexible rubber hoses, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at host discharge.
3. Electrical Power Cords: Each Contractor shall provide their own grounded extension cords (12 Gauge minimum); use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. All power cords are to be elevated, supported and hung from structure above wherever possible to avoid trip hazards.
4. Electrical Welding Outlets: These will not be provided. Each Contractor will be responsible for their own welding power.
5. First Aid Supplies: Comply with governing regulations.
6. Fire Extinguishers: The General Contractor shall provide hand-carried, portable UL-rated, class "ABC" fire extinguishers for the entire construction area, as defined by OSHA Standards. In other locations, provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers. Comply with NFPA10 classification, extinguishing agent and size required by locations and class of fire exposure. Each Contractor shall provide fire extinguishers for their own use.

1.7 UTILITIES

A. Use Charges:
1. Cost of temporary facilities including use charges are to paid by the Contractor requiring or providing the temporary facility unless noted otherwise.
2. The Owner shall pay electrical consumption costs during construction for all usage except temporary heat.
3. The Owner shall pay natural gas consumption costs during construction for all usage.
4. The Owner shall pay water consumption costs during construction for all usage.

5. If the permanent HVAC system is to be utilized for temporary heat, the Owner shall pay for fuel costs. If the permanent system is utilized, the Mechanical Contractor shall bear all costs associated with the maintenance of said system until final completion.

B. Utilities and Systems:
   1. Contractors interrupting services due to their construction operations shall provide temporary utility lines, as required, to maintain services.
   2. The Electrical Contractor shall provide temporary electrical power service where required to construction offices for all contractors and shall remove temporary service at completion of the Project. Power will be made available twenty-four (24) hours per day.

C. Temporary Utilities
   1. Owner will pay cost of energy used. Exercise measures to conserve energy, utilize Owner's existing power service:
      a. Electrical power and metering, consisting of connection to existing facilities.
      b. Water supply, consisting of connection to existing facilities.
   2. Electrical Trades Contractor shall provide and pay for all temporary power services required for construction purposes.
   3. Existing facilities may not be used.
   4. New permanent facilities may be used.
   5. Use trigger-operated nozzles for water hoses, to avoid waste of water.

D. Temporary Telecommunications Services
   1. It is the responsibility of Each Contractor to provide and maintain (including any cost) any data or phone line they deem necessary for their day to day operations.

1.8 FACILITIES

A. Temporary Sanitary Facilities
   1. The Plumbing Contractor shall provide and maintain required facilities and enclosures with sanitary handwash. Facilities shall be located at staging areas and in reasonable proximity of all work areas as directed by Owner. Provide at time of project mobilization.
      a. Unit provided shall be self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber, reinforced polyester shell or similar nonabsorbent material.
   2. Provide at least one unit of each twelve (12) construction personnel on site. Refer to Site Safety and Logistics plans for locations.
   3. New permanent facilities may not be used during construction operations.
   4. The Plumbing Contractor shall be responsible to maintain weekly in clean and sanitary condition.
      a. Provide all toilet supplies including toilet paper, hand sanitizer and waste receptor.
   5. At end of construction, remove temporary sanitary facilities and return site to same or better condition as originally found.
   6. Provide a minimum of one facility at each building site. Location of units to be field coordinated with Owner.

1.9 CONSTRUCTION AIDS & PROTECTION

A. Protection:
   1. The General Trades Contractor shall provide handrails and barricades on all perimeters, stairs and landings according to OSHA regulations.
   2. Each Contractor shall install safety coverings, as needed to protect workers from hazards associated with any open holes or other openings, including but not limited to floors, walls and roofs. This work shall comply with all OSHA requirements and remain in place until permanent construction fills those openings.

3. All Contractors upon working in any of the areas named in the above paragraph shall remove the safety covering and handrail to perform their work. Upon completion of their work for the day, lunch, or breaks, or any time when the individual Contractor is not working in that opening, the safety covering and handrail must be replaced by the Contractor removing it. At the end of each day, the General Trades Contractor shall inspect the site and install all safety coverings and handrails. At the end of the Project, or in order to install permanent construction, each Contractor shall remove coverings and handrails.
4. Each Contractor requiring access to above grade work are responsible for providing ladders, scaffolding and appropriate methods to access their work. The Contractor desiring use of in-place above grade work platforms must arrange directly with the party that owns the equipment and make all rental and insurance arrangements directly with that party.
5. All work platforms, scaffolding, etc. on the Project shall be available for access by the Owner, Architect/Engineer, Authorities having jurisdiction, and Testing Agencies.

B. Lifts and Hoists
1. Lifting and hoisting of all materials and equipment will be the responsibility of Each Contractor.
2. Truck cranes and similar devices used for hoisting materials are considered “tools and equipment” and shall be provided by the contractor requiring the tools and equipment.
3. Each Contractor shall be responsible to provide all site and subsurface modification preparation and replacement required to use their lifting and hoisting equipment.

1.10 ENCLOSURES

A. Barriers
1. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations.
2. Provide protection for plants designated to remain. Replace damaged plants.
3. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

B. Barricades, Warning Signs and Lights
1. The General Trades Contractor, at the interior and entrances of the building, and the General Trades Contractor on site and at the exterior of the building, shall comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against.

C. Exterior Enclosures
1. Each contractor shall be responsible for proper enclosure of their own openings for protection of exterior construction in progress and completed from exposure, bad weather, other construction operations, and similar activities and to maintain the progress schedule.

1.11 SECURITY

A. Each contractor shall be responsible for coordinating their own forces and providing security and protection.

B. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
1. Each Contractor is responsible for the secure storage for their own materials and equipment on and off the site.

1.12 VEHICULAR CONSIDERATIONS

A. Access, Staging and Parking
1. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

a. Maintain 20 feet wide driveways with turning space between and around combustible materials.
2. Coordinate access and haul routes with governing authorities and Owner.
3. Provide and maintain access to fire hydrants and control valves, free of obstructions.
4. The General Trades Contractor shall provide means of dust/dirt/debris control from vehicles leaving the Construction Site and entering surrounding public streets.
5. Existing on-site roads may be used for construction traffic.
6. Maintenance:
   a. All site areas shall be maintained by The General Trades Contractor including public roads immediately outside property.
   b. The General Trades Contractor shall maintain traffic and parking areas in sound condition free of excavated material, construction equipment, product, mud, snow, and ice.
   c. The General Trades Contractor shall maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
7. Use of site and premises for Contractor staging, access and employee parking shall be coordinated with the Architect/Engineer and approved by the Owner.
8. The General Trades Contractor shall provide all work required to restore site, including but not limited to construction staging area, parking, and roads during the latter time of the Project in addition to all other patching required as a result of disturbances for work of the Project including underground electric, communication, network, etc.
9. Existing parking areas may be used for construction parking. Tracked vehicles not allowed on pavement.
10. Permanent Pavements and Parking Facilities:
    a. Prior to Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.
    b. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
11. Removal, Repair:
    a. The General Trades Contractor shall provide all work required to restore site, including but not limited to construction staging area, parking, and roads prior to Substantial Completion, in addition to all other patching required as a result of disturbances for work of the Project including underground electric, communication, network, etc.
    b. Remove temporary materials and construction when permanent paving is usable.
    c. Remove underground work and compacted materials to depth of 2 feet; fill and grade site as specified.
    d. Repair existing and permanent facilities damaged by use, to original and/or specified condition.

B. Traffic Regulation
1. Signs, Signals, and Devices:
   a. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by Authority having jurisdiction.
   b. Traffic Cones and Drums, Flares and Lights: As approved by Authority having jurisdiction.
   c. Flag Person Equipment: As required by Authority having jurisdiction.
2. Flag Persons: Each Contractor shall provide trained and equipped flag persons to regulate traffic when their construction operations or traffic encroach on public traffic lanes.
3. Traffic Signs and Signals:
   a. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
   b. Provide, operate, and maintain traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
   c. Relocate as Work progresses, to maintain effective traffic control.
4. Removal:
   a. Remove equipment and devices when no longer required. Repair damage caused by installation.
   b. Remove post settings to depth of 2 feet.

1.13 WASTE REMOVAL AND PROGRESS CLEANING

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Each Contractor on the Project is responsible for general clean-up and trash removal resulting from the work or employees of that contract, on a daily basis. This requirement will be enforced and will result in cost assessment against the Contractor who fails to perform daily cleanup.
   1. Comply with requirements of NFPA 241 for removal of combustible waste material and debris.
   2. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.

C. Dumpsters
   1. The General Trades Contractor shall provide dumpster(s) as required for the purpose of trash removal for all Contractors, unless noted otherwise.
   2. In every instance, the Prime contractor responsible for providing each dumpster shall be responsible for:
      a. The cost of all disposal fees associated with each dumpster provided.
      b. Flattening or crushing all trash as necessary when placed into the dumpster.
   3. Dumpsters shall be located at the site, accessible to building and roads.
   4. Hazardous materials shall not be placed in dumpsters, but shall be removed from the site by the Contractor’s licensed subcontractor responsible for the material.
   5. Contractors may load legally acceptable construction debris to the designated dumpster (from this project only).
   6. Dumpsters shall remain on the project until project completion, or as directed by the Owner.

D. The Owner shall coordinate the following:
   1. The location and placement of all dumpsters.
   2. The organization of weekly project clean up with Each Contractor.
      a. All Contractors on site shall provide labor to assist in this clean up.

E. The General Trades Contractor will be responsible for weekly broom cleaning of all floor surfaces, for dust, dirt and general trash. Contractor will deposit the same in the dumpster.

F. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

G. Remove trash from site weekly or when dumpster is full.

H. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the Authorities having jurisdiction.

I. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.14 FIELD OFFICES

A. Contractor's Field Office
   1. Each Prime Contractor shall provide and maintain such offices, storage and fabrication shed, and other temporary buildings or trailers on the project site as required for their own use. Contractors are advised that spaces within the existing building for storage of materials will not be available for their use. All steps and platforms connected to shelters must be per OSHA regulations. Unless written permission is obtained from the Owner through the Architect/Engineer, only Prime Contractors will be allowed an on-site office due to space limitations. Contractors shall provide offices for their own personnel.
   2. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture .
   3. The General Trades Contractor shall provide space for Project meetings, with table and chairs to accommodate 6 or 12 persons.
   4. Locate offices a minimum distance of 30 feet from existing and new structures.
   5. All Contractor’s offices and sheds must have the Contractor’s identification on them.

6. Construction:
    a. Structurally sound, secure, weather tight enclosures for office and storage spaces. Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors.
    b. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible and occupancy and storage requirements.
    c. Exterior Materials: Weather resistant, finished in color acceptable to Architect/Engineer.
    d. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floor and bases.
    e. Lighting for Offices: 50ft C at desk top height, exterior lighting at entrance doors.
    f. Fire Extinguishers: Appropriate type fire extinguisher at each office and each storage area.
    g. Interior Materials in Storage Sheds: As required to provide specified conditions for storage of products.
7. Environmental Control:
    a. Heating, Cooling, and Ventilating for Offices: Automatic equipment to maintain comfort conditions. 68 degrees F heating and 76 degrees F cooling.
    b. Use of electric space heaters will not be allowed.
    c. Storage Spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; lighting for maintenance and inspection of products.
8. Preparation: The General Trades Contractor shall fill and grade sites for temporary structures sloped for drainage away from buildings.
9. Maintenance and Cleaning:
    a. Weekly janitorial services for offices; periodic cleaning and maintenance for office and storage areas.
    b. Maintain approach walk free of mud, water, and snow.
10. Removal: At completion of Work remove buildings, foundations, utility services and debris. The General Trades Contractor shall restore areas.

1.15 OPERATION, TERMINATION AND REMOVAL

A. Supervision: Each Contractor shall enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

B. Maintenance: Each Contractor shall maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
    1. Maintain operation of temporary enclosures, heating cooling, humidity control, ventilation and similar facilities on a 24-hour a day basis where required to achieve indicated results and to avoid possible damage.
    2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Termination and Removal: Unless the Owner requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility or not later than Substantial Completion. Complete or, if necessary restore, permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
    1. Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.

1.16 PROTECTION OF PROPERTY

A. General:

1. Each Contractor shall continuously protect the Work, other work, and the property of the Owner and others from damage, injury or loss arising in connection with the Work. Owner and Architect/Engineer shall not be responsible for any loss or damage to the Work, however caused, until after final acceptance thereof by the Owner, nor shall Owner or Architect/Engineer be responsible for loss of or damage (however caused) to materials, equipment, appliances and other personal property of Contractors used in the performance of the Work.
2. The General Trades Contractor shall provide, erect and maintain barricades, warning signs, flags, lights as may be necessary to protect the Work and safeguard the workers and the general public. As such protection shall comply with the requirements of the proper Authorities having jurisdiction.
3. Each Contractor shall begin repair of damages resulting from any occurrence immediately if it is a life safety or security issue or presents the imminent possibility of further damage. Otherwise repairs must begin within three days after (in the judgment of the Architect/Engineer) the commencement of repairs is possible.

B. Fire Safety:
1. Each Contractor shall store combustible materials in containers in fire-safe locations.
2. Each Contractor shall maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
3. Each Contractor shall provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
4. Owner shall be notified prior to any and all hot work.
   a. Each Contractor performing hot work shall provide a fire watch during and for at least 30-minutes after potential fire ignition work has been performed.

1.17 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities: Provision of electricity, lighting, and water.

1.2 RELATED REQUIREMENTS

A. Section 01 50 00 - Temporary Facilities and Controls:
   1. Temporary telecommunications services for administrative purposes.
   2. Temporary sanitary facilities required by law.

1.3 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

1.4 TEMPORARY ELECTRICITY

A. Service Cost: By Electrical Contractor.

B. Energy Costs: By Owner.

C. Connect to Owner's existing power service.
   1. Do not disrupt Owner's need for continuous service.
   2. Exercise measures to conserve energy.

D. Provide temporary electric feeder from existing building electrical service at Salt Storage Barn.

E. Power Service Characteristics: Provide GFCI distribution system, for voltages up to 208/240 volt.
   1. Temporary system shall be sufficient to accommodate temporary lighting and construction operations, including the use of power tools, and start-up of specified building equipment which must be tested, started or placed into use prior to completion of its permanent power connections.
   2. Provide weatherproof, grounded wiring with overload protection; with direct wired connections, where feasible.
   3. Locate multiple outlets for 120 volt power, not less than 4 gang, at each story and area of construction, spaced so that the entire area of construction can be reached by power tools on a single 100 foot extension cord. Maximum 20 Amp circuit breaker, four (4) receptacles per circuit breaker.

F. Complement existing power service capacity and characteristics as required.

G. Provide adequate number and size breakers and power outlets for all construction trades, with branch wiring and distribution boxes located as required. Each Contractor shall provide flexible power cords as required.
   1. The Electrical Contractor shall have a cord inspection program in place and shall maintain the inspection records on site. This requirement does not relieve any other user of the power or any other party in the area of the temporary power from their legal responsibilities for seeing that the system is maintained to OSHA and NEC requirements.

H. Provide main service disconnect and over-current protection at convenient location and meter.

I. Permanent convenience receptacles may be utilized during construction.

J. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.
   1. Provide 20 ampere duplex outlets, single phase circuits for power tools for every 100 sq ft of active work area.
      Provide 20 ampere, single phase branch circuits for lighting.
   2. Construction circuits shall be separate and independent from temporary lighting.

K. The Electrical Contractor shall provide and pay for all maintenance, servicing, operation, equipment, and supervision of lines installed.

L. As permanent power distribution system is accepted as substantially complete, either entire system or usable portions thereof, the Electrical Contractor shall make suitable provisions for temporary use thereof, and remove unused portions of temporary system.

M. When temporary electrical lines are no longer required, they shall be removed by the Electrical Contractor and any part, or parts of the grounds or building disturbed or damaged shall be brought back to their original condition.

N. The Electrical Contractor shall maintain and operate permanent electrical supply and distribution system until time of final acceptance and transfer of operation to Owner's personnel.

O. The Electrical Contractor shall provide temporary power connections to all mechanical and any additional equipment indicated on E series drawings until permanent power/new electric feeds and new electric components are in place.

1.5 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. The Electrical Contractor shall provide and maintain temporary lighting throughout construction site as required by local construction codes with the installation meeting the NEC and local code enforcement requirements.

B. The Electrical Contractor shall provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight and general lighting as stated below:
   1. Provide and maintain LED, compact fluorescent, or high-intensity discharge lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.
   2. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
   3. Provide safety lighting in the stairways, hallways, and exterior security lighting on a 24-hour basis
   4. Provide exterior fixtures where exposed to moisture.

C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required. Provide guard cages or tempered glass enclosures where exposed to breakage.

D. Provide switching controls for all lighting which will enable turning off temporary lighting during off-construction hours.

E. The Electrical Contractor shall maintain and operate temporary lighting and provide routine repairs.

F. Special lighting required for construction activities shall be provided by the contractor requiring it.

G. Permanent building lighting, if provided, may be utilized during construction.
   1. As the permanent lighting system is substantially complete for each story or usable portion thereof, The Electrical Contractor shall make suitable provisions for temporary use thereof and remove unused portions of temporary lighting system.
   2. The Electrical Contractor shall maintain and operate permanent lighting system until time of final acceptance and transfer of operation to Owner's personnel, including turning off lighting during off-construction hours.
   3. The Electrical Contractor shall replace bulbs that are burned out or substantially dimmed by substantial hours of use or broken by construction.

1.6 TEMPORARY HEATING

A. Temporary heating is not anticipated as being required during the construction schedule. Should schedule significantly change, temporary heating shall be as provided:

B. Cost of Equipment: By Mechanical Contractor.

C. Cost of Energy: By Owner.

D. Enclose building prior to activating temporary heat in accordance with Section 01 50 00.

E. The following temporary heating specification is to be utilized and provided by The Mechanical Contractor:
   1. Heaters shall be direct-fired Make-up Air units with discharge modulation. Units must be designed to operate either inside or outside the building while positioned to draw 100% outside air.
   2. All equipment must employ squirrel cage blower for quiet operation. Noisy propane heaters will not be allowed.
   3. Temperature control units must have discharge modulation with remote space thermostats. Discharge temperature not to exceed 180 degrees F. No open flame visible for discharge will be allowed.
   4. Units must ignite pilot and prove flame before main burner is opened.
   5. Units to include high and low temperature shutdown.
   6. Heaters shall comply with all applicable state, local and OSHA regulations and shall have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.
   7. It is required that a routine maintenance is performed at least once a month to insure the units are operating properly. This cost will be figured into the equipment unit rates and there will be no additional costs for these visits.
   8. All equipment to be utilized will meet the design criteria in Items 1 through 7 above.

F. In the event of equipment failure or repairs, alternate equipment must be in place within 12 hours of failure or the Owner or Owner's Representative shall have the right to take action necessary to restore the heat to the design temperature and will deduct any and all charges from The Mechanical Contractor.

G. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.
   1. If the permanent heating system is not available for use when any Contractor requires that the temperature be maintained above 50 degrees (for proper installation of finishes for example), the Mechanical Contractor shall be responsible to provide the additional heating.

H. Humidification: Where control of ambient humidity is required for proper performance of the work, or for curing/drying of installed work or for protection of installed work from deterioration due to variations ambient conditions, Each Contractor shall provide their own temporary humidification or dehumidification equipment to maintain the required conditions. Coordinate the use of the equipment with temporary heating to produce the required conditions with a minimum overall use of energy.

I. The Electrical Contractor shall provide power for oil or gas fired temporary heaters. It will be connected so that it can remain “live” when the temporary lighting has been turned off.

J. The Plumbing Contractor shall provide a temporary natural gas service for required temporary heat. All supply lines for natural gas fired temporary heaters to be provided by Mechanical Contractor.

K. As permanent heating system is substantially complete and operational for each story or usable portion thereof, The Mechanical Contract shall make suitable provisions for use thereof in temporary heating. The Mechanical Contractor shall maintain and operate permanent system for temporary heating purposes, including service to occupied areas, if any, until time of final acceptance or transfer of operation to Owner’s personnel, for major parts of system if not for entire heating system.

1. Warranty: the warranty, as required by the Contract Specifications, will not begin until final acceptance of the system has been given by the Architect/Engineer for all or part of a system. The warranty period does not start with the use of the equipment for temporary heating and cooling.
2. All permanent heating equipment used to supply temporary heat shall be completely cleaned and reconditioned by The Mechanical Contractor prior to final acceptance. Radiator traps and valves used in the heating system during the period of its operation to supply temporary heat shall not be reinstalled in the permanent system. Install new disposable filters and clean non-disposable filters prior to final acceptance. Replace worn parts and parts that have been subject to unusual operating conditions.

L. The Mechanical Contractor shall remove all soot, smudges, and other deposits from walls ceilings and all exposed surfaces which are the result of the use of any temporary heating equipment including the use of the permanent heating system for temporary heat purposes. Finish work shall not be done until all such surfaces are properly cleaned.

1.7 TEMPORARY VENTILATION

A. A contractor requiring ventilation for work shall provide fans or other necessary equipment to ventilate and condition air as the work requires.

1.8 TEMPORARY WATER SERVICE

A. Cost of Service: By Plumbing Contractor.

B. Cost of Water Used: By Owner.

C. Provide and maintain suitable quality water service for construction operations at time of project mobilization.
   1. The Plumbing Contractor shall provide ¾ inch hose bib terminations at each level and area of construction work, so that any area of the building construction can be reached with 150 foot length of hose. Water service may be run from a temporary or permanent source.
      a. Sterilization: Sterilize temporary water piping prior to use.
      b. Protect system from freezing.
      c. Maintain 30 psig water pressure with 5 gpm flow rate.

D. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 57 13
TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Prevention of erosion due to construction activities.

B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.

C. Restoration of areas eroded due to insufficient preventive measures.

D. Performance bond.

E. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.2 RELATED REQUIREMENTS

A. Section 31 10 00 - Site Clearing: Limits on clearing; disposition of vegetative clearing debris.

B. Section 31 22 00 - Grading: Temporary and permanent grade changes for erosion control.

C. Section 32 92 19 - Seeding: Permanent turf for erosion control.

1.3 REFERENCE STANDARDS

1.4 PERFORMANCE REQUIREMENTS

A. Develop and follow an Erosion and Sedimentation Prevention Plan and submit periodic inspection reports.

B. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.

C. Provide to Owner a Performance Bond covering erosion and sedimentation preventive measures only, in an amount equal to 100 percent of the cost of erosion and sedimentation control work.

D. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.

E. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
   1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
   2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 25 years.

F. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
   1. Control movement of sediment and soil from temporary stockpiles of soil.
   2. Prevent development of ruts due to equipment and vehicular traffic.
   3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

G. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
   1. Prevent windblown soil from leaving the project site.
   2. Prevent tracking of mud onto public roads outside site.
   3. Prevent mud and sediment from flowing onto sidewalks and pavements.
   4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.

H. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
   2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.

I. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.

J. Open Water: Prevent standing water that could become stagnant.

K. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.5 SUBMITTALS

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

B. Erosion and Sedimentation Control Plan:
   1. Include:
      a. Site plan identifying soils and vegetation, existing erosion problems, and areas vulnerable to erosion due to topography, soils, vegetation, or drainage.
      b. Site plan showing grading; new improvements; temporary roads, traffic accesses, and other temporary construction; and proposed preventive measures.
      c. Where extensive areas of soil will be disturbed, include storm water flow and volume calculations, soil loss predictions, and proposed preventive measures.
      d. Schedule of temporary preventive measures, in relation to ground disturbing activities.
      e. Other information required by law.
      f. Format required by law is acceptable, provided any additional information specified is also included.
   2. Obtain the approval of the Plan by authorities having jurisdiction.
   3. Obtain the approval of the Plan by Owner.

C. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.

PART 2 PRODUCTS

2.1 MATERIALS

A. Mulch: Use one of the following:
   1. Straw.

B. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons.

C. Compost Silt Sock: 5mm thick continuous HDPE filament, tubular knitted mesh with 3/8 inch openings.
   1. Compost: Use only mature compost that has been certified by the U.S. Composting Council's seal of Testing Assurance Program and meets the specifications provided .
   2. Use 2" x 2" hardwood stakes.
   3. Diameter: Refer to Erosion & Sedimentation Plan Engineering Drawings.

D. Gravel: See Section 31 23 23 for aggregate.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.2 PREPARATION

A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.3 SCOPE OF PREVENTIVE MEASURES

A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.

B. Construction Entrances: Traffic-bearing aggregate surface.
   1. Width: As required; 20 feet, minimum.
   2. Length: 50 feet, minimum.
   3. Provide at each construction entrance from public right-of-way.
   4. Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.

C. Linear Sediment Barriers: Made of silt fences, compost filter socks, or straw bales.
   1. Provide linear sediment barriers:
      a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
      b. Along the top of the slope or top bank of drainage channels and swales that traverse disturbed areas.
      c. Along the toe of cut slopes and fill slopes.
   2. Space sediment barriers with the following maximum slope length upslope from barrier:
      a. Slope of Less Than 2 Percent: 100 feet..
      b. Slope Between 2 and 5 Percent: 75 feet.
      c. Slope Between 5 and 10 Percent: 50 feet.
      d. Slope Between 10 and 20 Percent: 25 feet.
      e. Slope Over 20 Percent: 15 feet.

D. Storm Drain Curb Inlet Sediment Trap: Protect each curb inlet using one of the following measures:
   1. Filter fabric wrapped around hollow concrete blocks blocking entire inlet face area; use one piece of fabric wrapped at least 1-1/2 times around concrete blocks and secured to prevent dislodging; orient cores of blocks so runoff passes into inlet.
   2. Straw bale row blocking entire inlet face area; anchor into pavement.

E. Storm Drain Drop Inlet Sediment Traps: As detailed on drawings.

F. Temporary Splash Pads: Stone aggregate over filter fabric; size to suit application; provide at downspout outlets and storm water outlets.

G. Soil Stockpiles: Protect using one of the following measures:
   1. Cover with polyethylene film, secured by placing soil on outer edges.

2. Cover with mulch at least 4 inches thickness of pine needles, sawdust, bark, wood chips, or shredded leaves, or 6 inches of straw.

H. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.

I. Temporary Seeding: Use where temporary vegetated cover is required.

3.4 INSTALLATION

A. Traffic-Bearing Aggregate Surface:
1. Excavate minimum of 6 inches.
2. Place geotextile fabric full width and length, with minimum 12 inch overlap at joints.
3. Place and compact at least 6 inches of 1 1/2 to 3 1/2 inch diameter stone.

B. Compost Filter Socks:
1. Locate/mark any utilities.
2. Check all permits.
3. Obtain compost meeting specifications.
4. Obtain filter sock netting.
5. Fill filter sock netting with compost.
6. Mark out area for filter sock; install sock parallel to contour lines so that the runoff enters as sheet flow.
7. In high-flow or steep-slope areas, orient a second sock parallel to the first to dissipate flows.
8. Lay filter sock with compost.
9. Stake filter sock every 10 ft. Stakes should be driven through the center of the sock, and 1 ft into the ground.
10. If sock netting must be joined, fit beginning of the new sock over the end of the old sock, overlapping by 1-2 ft. Fill with compost; then stake the joint.

C. Mulching Over Large Areas:
1. Dry Straw: Apply 2-1/2 tons per acre; anchor using dull disc harrow or emulsified asphalt applied using same spraying machine at 100 gallons of water per ton of mulch.

D. Mulching Over Small and Medium Areas:
1. Dry Straw: Apply 4 to 6 inches depth.

E. Temporary Seeding:
1. When hydraulic seeder is used, seedbed preparation is not required.
2. When surface soil has been sealed by rainfall or consists of smooth undisturbed cut slopes, and conventional or manual seeding is to be used, prepare seedbed by scarifying sufficiently to allow seed to lodge and germinate.
3. If temporary mulching was used on planting area but not removed, apply nitrogen fertilizer at 1 pound per 1000 sq ft.
4. On soils of very low fertility, apply 10-10-10 fertilizer at rate of 12 to 16 pounds per 1000 sq ft.
5. Incorporate fertilizer into soil before seeding.
6. Apply seed uniformly; if using drill or cultipacker seeders place seed 1/2 to 1 inch deep.
7. Irrigate as required to thoroughly wet soil to depth that will ensure germination, without causing runoff or erosion.
8. Repeat irrigation as required until grass is established.

3.5 MAINTENANCE

A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches or more rainfall at the project site, and daily during prolonged rainfall.

B. Repair deficiencies immediately.

C. Compost Silt Socks

1. Inspect filter socks periodically, and especially after large storm events. Ensure that the filter sock is intact, and that the area upstream has not filled with sediment. If the upstream area has filled with sediment, or if the filter sock has been overtopped, install additional filter socks further upstream. Sediment behind the sock should be removed when the depth of the sediment reaches 3.25-in. for an 8-in. sock, 4.75-in. for a 12-in. sock and 7.25-in. for an 18-in. sock. For socks with greater diameters, remove sediment behind the sock when the accumulated sediment depth reaches 40 percent of the design diameter of the sock.

D. Clean out temporary sediment control structures weekly and relocate soil on site.

E. Place sediment in appropriate locations on site; do not remove from site.

3.6 CLEAN UP

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Architect.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

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SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Procedures for Owner-supplied products.

G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Lists of products to be removed from existing building.

B. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

C. Section 01 40 00 - Quality Requirements: Product quality monitoring.

D. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

E. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.3 REFERENCE STANDARDS

A. 16 CFR 260.13 - Guides for the Use of Environmental Marketing Claims; Federal Trade Commission; Recycled Content; Current Edition.

B. ASTM D6866 - Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis; 2024a.

C. C2C (DIR) - C2C Certified Products Registry; Cradle to Cradle Products Innovation Institute; Current Edition.

D. EN 15804 - Sustainability of Construction Works - Environmental Product Declarations - Core Rules for the Product Category of Construction Products; 2022 (Corrigendum 2021).

E. GreenScreen (LIST) - GreenScreen for Safer Chemicals List Translator; Clean Production Action; Current Edition.

F. GreenScreen (METH) - GreenScreen for Safer Chemicals Method v1.2; Clean Production Action; Current Edition.

G. ISO 14025 - Environmental Labels and Declarations - Type III Environmental Declarations - Principles and Procedures; 2006.

H. ISO 14040 - Environmental Management - Life Cycle Assessment - Principles and Framework; 2006, with Amendment (2020).

I. ISO 14044 - Environmental Management - Life Cycle Assessment - Requirements and Guidelines; 2006, with Amendment (2020).

J. ISO 21930 - Sustainability in Buildings and Civil Engineering Works — Core Rules for Environmental Product Declarations of Construction Products and Services; 2017.

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

1.4 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 15 days after date of Agreement.
   2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.5 QUALITY ASSURANCE

A. Bio-Based Content: Of vegetable or animal origin, not including products made by killing the animal.
   1. Determine percentage of bio-based content in accordance with ASTM D6866.
   2. Bio-based content must be sourced from a Sustainable Agriculture Network certified farm.

B. Cradle-to-Cradle Certified: End use product certified Cradle-to-Cradle v2 Basic or Cradle-to-Cradle v3 Bronze, minimum, as evidenced by C2C (DIR).

C. Environmental Product Declaration (EPD): Publicly available, critically reviewed life cycle analysis having at least a cradle-to-gate scope.
   1. Good: Product-specific; compliant with ISO 14044.
   2. Better: Industry-wide, generic; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
   3. Best: Commercial-product-specific; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
   4. Where demonstration of impact reduction below industry average is required, submit both industry-wide and commercial-product-specific declarations; or submit at least 5 declarations for products of the same type by other manufacturers in the same industry.

D. GreenScreen Chemical Hazard Analysis: Ingredients of 100 parts-per-million or greater evaluated using GreenScreen (METH).
   1. Good: GreenScreen (LIST) evaluation to identify Benchmark 1 hazards; a Health Product Declaration includes this information.
   2. Better: GreenScreen Full Assessment.
   3. Best: GreenScreen Full Assessment by GreenScreen Licensed Profiler.

4. Acceptable Evidence: GreenScreen report.

E. Health Product Declarations (HPD): Complete, published declaration with full disclosure of known hazards, prepared using one of the HPDC (HPD-OLT) online tools.

F. Manufacturer's Inventory of Product Content: Publicly available inventory of every ingredient identified by name and Chemical Abstract Service Registration Number (CAS RN).
1. For ingredients considered a trade secret or intellectual property, the name and CAS RN may be omitted, provided the ingredient's role, amount, and GreenScreen Benchmark are given.

G. Recycled Content: Determine percentage of post-consumer and pre-consumer (post-industrial) content separately, using the guidelines contained in 16 CFR 260.13.
1. Previously used, reused, refurbished, and salvaged products are not considered recycled.
2. Wood fabricated from timber abandoned in transit to original mill is considered reused, not recycled.
3. Determine percentage of recycled content of any item by dividing the weight of recycled content in the item by the total weight of materials in the item.
4. Determine value of recycled content of each item separately, by multiplying the content percentage by the value of the item.
5. Acceptable Evidence:
a. For percentage of recycled content, information from manufacturer.
b. For cost, Contractor's cost data.

H. Reused Products: Materials and equipment previously used in this or other construction, salvaged and refurbished as specified.
1. Wood fabricated from timber abandoned in transit after harvesting is considered reused, not recycled.
2. Acceptable Evidence: Information about the origin or source, from Contractor or supplier.

I. Source Location: Location of harvest, extraction, recovery, or manufacture; where information about source location is required to be submitted, give the postal address:
1. In every case, indicate the location of final assembly.
2. For harvested products, indicate location of harvest.
3. For extracted (i.e. mined) products, indicate location of extraction.
4. For recovered products, indicate location of recovery.
5. For products involving multiple manufacturing steps, provide a description of the process at each step, with location.
6. Acceptable Evidence:
a. Manufacturer's certification.
b. Life cycle analysis (LCA) performed by third-party.

J. Sustainably Harvested Wood: Solid wood, wood chips, and wood fiber certified or labeled by an organization accredited by one of the following:
1. The Forest Stewardship Council, The Principles for Natural Forest Management; for Canada visit http://www.fsccanada.org, for the USA visit http://www.fscus.org.
2. Acceptable Evidence: Copies of invoices bearing the certifying organization's certification numbers.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

D. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
   1. See Section 01 10 00 for list of items required to be salvaged for reuse and relocation.

2.2 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made outside the United States, its territories, Canada, or Mexico.
   2. Made using or containing CFC's or HCFC's.
   3. Made of wood from newly cut old growth timber.
   4. Containing lead, cadmium, asbestos, or mercury.

C. Where other criteria are met, Contractor shall give preference to products that:
   1. If used on interior, have lower emissions, as defined in Section 01 61 16.
   2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
   3. Are extracted, harvested, and/or manufactured closer to the location of the project.
   4. Have longer documented life span under normal use.
   5. Result in less construction waste. See Section 01 74 19
   6. Are made of vegetable materials that are rapidly renewable.
   7. Are made of recycled materials.
   8. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.
   9. If bio-based, other than wood, are or are made of Sustainable Agriculture Network certified products.
   10. Are Cradle-to-Cradle Certified.
   11. Have a published Environmental Product Declaration (EPD).
   12. Have a published Health Product Declaration (HPD).

D. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.

E. All electrical products, components and packaged systems are to be approved and labeled by a nationally recognized testing agency such as Underwriters Laboratory (UL) or equal.

F. Provide interchangeable components by the same manufacture for components being replaced.

G. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.

H. Cord and Plug: Provide minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

2.3 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.4 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 SUBSTITUTION LIMITATIONS

A. See Section 01 25 00 - Substitution Procedures.

3.2 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.3 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.4 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.

B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.

C. Store and protect products in accordance with manufacturers' instructions.

D. Store with seals and labels intact and legible.

E. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

F. For exterior storage of fabricated products, place on sloped supports above ground.

G. Provide off-site storage and protection when site does not permit on-site storage or protection.

H. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

I. Comply with manufacturer's warranty conditions, if any.

J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

L. Prevent contact with material that may cause corrosion, discoloration, or staining.

M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 61 16
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

C. Requirement for installer certification that they did not use any non-compliant products.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 33 29.07 - Prohibited Content Installer Certification: Form for certifying that no non-compliant products were used.

C. Section 01 40 00 - Quality Requirements: Procedures for testing and certifications.

1.3 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.
   3. Flooring.
   4. Composite wood.
   5. Products making up wall and ceiling assemblies.
   6. Thermal and acoustical insulation.
   7. Exterior applied products (for LEED Healthcare and Schools projects only).

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings applied on site.
   2. Interior adhesives and sealants applied on site, including flooring adhesives.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
   1. Concrete.
   2. Clay brick.
   3. Metals that are plated, anodized, or powder-coated.
   4. Glass.
   5. Ceramics.
   6. Solid wood flooring that is unfinished and untreated.

1.4 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2025.

C. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2020.

D. SCAQMD 1113 - Architectural Coatings; 1977, with Amendment (2016).

E. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

1.5 SUBMITTALS

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

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

C. Installer Certifications Regarding Prohibited Content: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have been used in the installation of installer's products, or 2) that such products used comply with these requirements.

1.6 QUALITY ASSURANCE

A. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Report of laboratory testing performed in accordance with requirements.

B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.1 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. VOC-Content-Restricted Products: VOC content not greater than required by the following:
   1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
   2. Joint Sealants: SCAQMD 1168 Rule.
   3. Paints and Coatings: Each color; most stringent of the following:
      a. 40 CFR 59, Subpart D.
      b. 6 CRR-NY, Chapter III, Subpart A.
      c. SCAQMD 1113 Rule.
      d. CARB (SCM).

PART 3 EXECUTION

3.1 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

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SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination.

B. Examination, preparation, and general installation procedures.

C. Progress cleaning.

D. Protection of installed work.

E. System start-up.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Testing, adjusting and balancing.

J. Final cleaning.

K. Closeout procedures.

L. General requirements for maintenance service.

1.2 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.3 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.4 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.4 PROGRESS CLEANING

A. All contractors shall be responsible for daily cleaning of work areas as described.

B. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

D. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

E. Collect and remove waste materials, debris, and trash/rubbish from site daily and dispose off-site; do not burn or bury.

3.5 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

G. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.6 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architect and Owner seven days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.7 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of final inspection.

B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

E. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

3.8 TESTING, ADJUSTING AND BALANCING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.9 FINAL CLEANING

A. The General trades Contractor shall employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer’s instructions.

B. Execute final cleaning operations before requesting inspection for certification of Substantial Completion.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

C. Use cleaning materials that are nonhazardous.

D. Clean interior and exterior glass, including mirrors, door glass, windows, and surfaces exposed to view. Polish transparent and glossy surfaces.
   1. Remove temporary labels, stains and foreign substances.
   2. Remove glazing compounds and other substances that are noticeable vision-obscuring materials.
   3. Replace chipped or broken glass and other damaged transparent materials.

E. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

F. Clean exposed exterior and interior hard surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted and soft surfaces.

G. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

H. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

I. Clean filters of operating equipment.

J. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even textured surface.

K. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
   1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
      a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
      b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
   2. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
   3. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases, including but not limited to:
      a. Affidavit of Release of Liens Form:
         1) From Contractor
         2) From Subcontractor(s)
         3) From Major Material Supplier(s)
      b. Affidavit of Payment of Debts and Claims Form:
         1) From Contractor
         2) From all tiers of Subcontractor(s)
      c. Consent of Surety for Final Payment.
      d. One (1) year warranty from date of Substantial Completion.
   4. Submit final record information.
   5. Complete final cleanup requirements, including touchup painting.
   6. Touch up and otherwise repair and restore marred, exposed finishes.

B. Inspection Procedures: Upon receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
   1. The Architect will repeat inspection when requested and assured that the Work is substantially complete.
   2. Results of the completed inspection will form the basis of requirements for final acceptance.

3.11 FINAL ACCEPTANCE

A. Each Contractor shall submit, prior to requesting final inspection, written certification that:
   1. Work has been completed in accordance with contract documents, listing any exceptions.
   2. Project has been inspected for compliance with contract documents.
   3. Equipment and systems have been tested in the presence of the Owner and are operational and video-taped instructions prepared and submitted to the Architect and Owner.
   4. Owner’s designated staff have been instructed on all equipment and systems and an Owner signed receipt furnished to the Architect.
   5. Operational and Maintenance Manuals have been submitted and reviewed by the Architect.
   6. Owner has been furnished the specified warranties, guarantees and spare parts and an Owner signed receipt furnished to the Architect.

7. Project has been completed and is ready for final inspection.

B. If the Architect considers the work complete in accordance with the requirements of the Contract Documents, the Contractor will submit his final requisition (including final changes to the Contract Sum) together with the following to the Architect.
   1. Contractor's Affidavit of Payments of Debts and Claims.
   2. Contractor's Release of Liens and Waiver of Liens.
   3. Consent of Surety to Final Payment.
   4. Evidence of continuing insurance coverage.

C. If the Architect does not consider the work finally complete, the Contractor will be notified, in writing by the Architect with the reasons stated.

D. Re-inspection Procedure: The Architect will re-inspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.
   1. Upon completion of re-inspection, the Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
   2. The Contractor shall achieve FINAL COMPLETION of all Work, including correction of punch list items, preparation and delivery of manuals, presentation of training and completion of final paper submissions not later than sixty (60) days following the Contract-scheduled Substantial Completion date. In the event the Contractor shall fail to achieve Final Completion in a timely manner in accordance with this provision, the Contractor and the Contractor's Surety shall be liable for and shall reimburse the Owner for any and all Design Professional fees, materials or expenses made necessary by the Contractor's failure. Additional fees and expenses shall be charged by the Owner against any Final Payment due or which may become due the Contractor.

3.12 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities. Refer to Section 01 78 00 - Closeout Submittals.
   1. Provide copies to Architect/Engineer.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Substantial Completion.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Accompany Project Coordinator on Contractor's preliminary final inspection.

H. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

I. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

J. Submit final application for payment identifying total adjusted contract sum, previous payments and sum remaining due.

3.13 GENERAL REQUIREMENTS FOR MAINTENANCE SERVICE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

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SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood.
   5. Land clearing debris, including brush, branches, logs, and stumps.
   6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.

E. Contractor Reporting Responsibilities: Submit periodic Waste Disposal Reports; report landfill disposal, incineration, recycling, salvage, and reuse regardless of to whom the cost or savings accrues; use the same units of measure on required reports.

F. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

G. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.2 RELATED REQUIREMENTS

A. Section 01 25 00 - Substitution Procedures.

B. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

D. Section 01 60 00 - Product Requirements: Waste prevention requirements related to product substitutions.

E. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

F. Section 01 70 00 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.3 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.4 SUBMITTALS

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

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:

a. Identification of material.
b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.

5. Recycled and Salvaged Materials: Include the following information for each:
   a. Identification of material, including those retrieved by installer for use on other projects.
   b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
   c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
6. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards.
   c. Include weight tickets as evidence of quantity.
7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.1 PRODUCT SUBSTITUTIONS

A. See Section 01 60 00 and Section 01 25 00.

PART 3 EXECUTION

3.1 WASTE MANAGEMENT PROCEDURES

A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Prebid meeting.
   2. Preconstruction meeting.

3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

D. Spare Parts and Maintenance Products

1.2 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   2. Submit draft of completed documents in electronic format 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   3. Submit one hard copy set and one electronic copy on thumb drive of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawingsand Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   3. Field changes of dimension and detail.
   4. Details not on original Contract drawings.

3.2 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.4 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

O. Include test and balancing reports.

P. Additional Requirements: As specified in individual product specification sections.

3.5 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

J. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.
      a. Source data.
      b. Product data, shop drawings, and other submittals.
      c. Operation and maintenance data.
      d. Field quality control data.
      e. Photocopies of warranties and bonds.
   4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

K. Electronic Format: Operation and maintenance data in electronic format shall be assembled and arranged as prescribed for hard copy manuals.
   1. All content shall be:
      a. In individual documents, using .pdf format.
      b. Organized into named folders.
      c. In a fully searchable format.
      d. Saved to high quality thumb drive.

3.6 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

3.7 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.

B. Deliver to Project site and place in location as directed by Owner; obtain receipt prior to final payment.

END OF SECTION

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SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

B. Protecting items designated to remain.

C. Removing demolished materials.

1.2 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

C. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

D. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

E. Section 31 23 23 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

1.3 SUBMITTALS

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

B. Site Plan: Indicate:
1. Areas for temporary construction and field offices.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.4 QUALITY ASSURANCE

A. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.

B. Obtain required permits from authorities having jurisdiction.

1.5 SEQUENCING

A. Section 01 10 00 - Summary: Requirements for sequencing.

1.6 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.7 SCHEDULING

A. Section 01 30 00 - Administrative Requirements: Requirements for scheduling.

B. Schedule work to precede new construction.

C. Cooperate with Owner in scheduling noisy operations and waste removal that may impact Owner operations.

1.8 PROJECT CONDITIONS

A. Hazardous Materials: Known hazardous materials will be removed before start of Work. Notify Architect/Engineer upon discovery of a hazardous material.

B. Each contractor shall be responsible for the cutting and patching of existing surfaces as required to complete the work of their contract unless noted otherwise.

C. Conduct demolition to minimize interference with adjacent and occupied building areas.

D. Cease operations immediately if structure appears to be in danger and notify Architect. Do not resume operations until directed.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.1 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Provide, erect, and maintain temporary barriers and security devices.
   3. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   5. Do not close or obstruct roadways or sidewalks or hydrants without permit.
   6. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Do not begin removal until built elements to be salvaged or relocated have been removed.

D. Do not begin removal until vegetation to be relocated has been removed and vegetation to remain has been protected from damage.

E. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.2 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

E. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

F. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone. Identify and mark, in same manner as other utilities to remain, utilities to be reconnected.

3.3 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.

B. Protect existing work to remain.
   1. Perform cutting to accomplish removal work neatly and as specified for cutting new work.

3.4 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site as work progresses.

B. Remove materials not to be reused on site; comply with requirements of Section 01 74 19 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

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SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Concrete formwork.

B. Concrete for composite floor construction.

C. Floors and slabs on grade.

D. Concrete reinforcement.

E. Joint devices associated with concrete work.

F. Miscellaneous concrete elements, including equipment pads.

G. Concrete curing.

1.2 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

B. Section 32 13 13 - Concrete Paving: Sidewalks, curbs and gutters.

1.3 REFERENCE STANDARDS

A. ACI PRC-213 - Guide for Structural Lightweight-Aggregate Concrete; 2014 (Reapproved 2023).

B. ACI CODE-318 - Building Code for Structural Concrete—Code Requirements and Commentary; 2025.

C. ACI MNL-66 - ACI Detailing Manual; 2020.

D. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.

E. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction; 2015.

F. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

G. ACI PRC-305 - Guide to Hot Weather Concreting; 2020.

H. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.

I. ACI PRC-308 - Guide to External Curing of Concrete; 2016.

J. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).

K. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials and Commentary; 2010 (Reapproved 2015).

L. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

M. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2026.

N. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2024.

O. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

P. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2026a.

Q. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2024a.

R. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2026.

S. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2026a.

T. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2024.

U. ASTM C143/C143M - Standard Test Method for Slump of Concrete; 2026a.

V. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.

W. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2020.

X. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete; 2025.

Y. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2026.

Z. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2024.

AA. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2023.

BB. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2024.

CC. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2025a.

DD. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2025a.

EE. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2020a.

FF. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2024.

GG. ASTM C1116/C1116M - Standard Specification for Fiber-Reinforced Concrete; 2023.

HH. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

II. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics; 2026.

JJ. ASTM D2103 - Standard Specification for Polyethylene Film; 2023a.

KK. ASTM E1155/E1155M - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers; 2023.

LL. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2024.

MM. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).

1.4 SUBMITTALS

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

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
   1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.

C. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.

D. Design Data:
   1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
      a. Hot and cold weather concrete work.
      b. Air entrained concrete work.
   2. Identify mix ingredients and proportions, including admixtures.
   3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.
   4. Submit 28 day concrete strength test data for each mix design per ACI CODE-318 requirements.
      a. Provide a minimum of 15 concrete strength tests, where a concrete strength test is the average strength of at least two 6x12 inch or three 4x8 inch cylinders.
      b. If 15 concrete tests are unavailable, the average strength of the concrete tests must exceed the required strength by 1200psi for up to 5000 psi mix concrete.

E. Samples: Submit samples of underslab vapor retarder to be used.

F. Reinforcing Placement Drawings: Comply with requirements of ACI MNL-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices, supporting & spacing devices. Indicate quantities of reinforcing steel and welded wire fabric.

G. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.

H. Reports: Submit certified copies of mill test report of reinforcement materials analysis.

I. Test Reports: Submit report for each test or series of tests specified.

J. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.

1.5 CLOSEOUT SUBMITTALS

A. See Section 01 70 00 - Execution and Closeout Requirements for requirements.

B. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

C. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.

B. Follow recommendations of ACI PRC-305 when concreting during hot weather.

C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

D. For slabs required to include moisture vapor reducing admixture (MVRA), do not proceed with placement unless manufacturer's representative is present for every day of placement.

1.7 WARRANTY

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

B. Slabs with Porosity Inhibiting Admixture (PIA) or Moisture Vapor Reducing Admixture (MVRA): Provide warranty to cover cost of flooring failures due to moisture migration from slabs for life of the concrete.
   1. Include cost of repair or removal of failed flooring, placement of topical moisture remediation system, and replacement of flooring with comparable flooring system.
   2. Provide warranty by admixture manufacturer matching terms of flooring adhesive or primer manufacturer's material defect warranty.

PART 2 PRODUCTS

2.1 FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.

B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Facing for Exposed Finish Concrete: Steel.
   2. Earth Cuts: Do not use earth cuts as forms for vertical surfaces. Natural rock formations that maintain a stable vertical edge may be used as side forms.
   3. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
   4. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.2 REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
   1. Type: Deformed billet-steel bars.
   2. Finish: Unfinished, unless otherwise indicated.

B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
   1. Form: Flat Sheets.
   2. WWR Style: As indicated on drawings.

C. Fiber Reinforcement: Alkali-resistant polypropylene monofilament complying with ASTM C1116/C1116M, 24 ksi minimum tensile strength. Mixing rate per manufacturer's recommendations.
   1. Fiber Length: 0.75 inch, nominal.
   2. Products:
      a. Fibermesh 150 by Propex Concrete Systems: www.fibermesh.com
      b. FRC Mono 150 by FRC Industries: www.frcindustries.com
      c. Substitutions: See Section 01 60 00 - Product Requirements.

2.3 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.

2. Coarse Aggregate Maximum Size: In accordance with ACI CODE-318.

C. Lightweight Aggregate: ASTM C330/C330M.

D. Fly Ash: ASTM C618, Class F. Loss on ignition requirement waived if used in flowable fill concrete mix.

E. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.4 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C260/C260M.

C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.

D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.

E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.

F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.

G. Accelerating Admixture: ASTM C494/C494M Type C.

H. Retarding Admixture: ASTM C494/C494M Type B.

I. Water Reducing Admixture: ASTM C494/C494M Type A.

J. Moisture Vapor Reducing Admixture (MVRA): Liquid, inorganic admixture free of volatile organic compounds (VOCs). Closes capillary systems formed during concrete curing to reduce moisture vapor emission and transmission. Reduces concrete shrinkage with no adverse effect on concrete properties or applied flooring.
   1. Provide admixture in slabs to receive adhesively applied flooring.
   2. Products:
      a. Barrier One Concrete Admixtures; MVRA-CPS: www.barrierone.com/#sle.
      b. ISE Logik Industries, Inc; MVRA 900: www.iselogik.com/#sle.
      c. Specialty Products Group; Vapor Lock 20/20: www.spggogreen.com/#sle.
      d. Substitutions: See Section 01 60 00 - Product Requirements.

2.5 ACCESSORY MATERIALS

A. Underslab Vapor Retarder:
   1. Sheet Material: ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single-ply polyethylene is prohibited.
   2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
   3. Products:
      a. ISI Building Products; Viper VaporCheck II 15-mil (Class A): www.isibp.com/#sle.
      b. Poly-America; Husky Yellow Guard Class A 15-mil Vapor Barrier: www.yellowguard.com/#sle.
      c. Stego Industries, LLC; Stego Wrap 15-mil: www.stegoindustries.com/#sle.
      d. Tex-Trude; Xtreme Vapor Barrier (15-mil): www.tex-trude.com/#sle.
      e. Substitutions: See Section 01 60 00 - Product Requirements.

B. Non-Shrink Cementitious Grout: Premixed compound consisting of nonmetallic aggregate, cement, water reducing and plasticizing agents.
   1. Minimum Compressive Strength at 48 Hours, ASTM C109/C109M: 2,000 pounds per square inch.
   2. Minimum Compressive Strength at 28 Days, ASTM C109/C109M: 7,000 pounds per square inch.

3. Flowable Products:
   a. Euclid Chemical Company; NS GROUT: www.euclidchemical.com/#sle.
   b. Five Star Products, Inc; Five Star Fluid Grout 100: www.fivestarproducts.com/#sle.
   c. Substitutions: See Section 01 60 00 - Product Requirements.

C. Non-Shrink Epoxy Grout: Moisture-insensitive, two-part; consisting of epoxy resin, nonmetallic aggregate, and activator.
   1. Minimum Compressive Strength at 7 days, ASTM D695: 12,000 pounds per square inch.

2.6 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.

B. Epoxy Bonding System:
   1. Complying with ASTM C881/C881M and of Type required for specific application.
   2. Products:
      a. Adhesives Technology Corporation; _____: www.atcepoxy.com/#sle.
      b. Kaufman Products Inc; SurePoxy HM Class B: www.kaufmanproducts.net/#sle.
      c. SpecChem, LLC; SpecPoxy 1000, SpecPoxy 2000, SpecPoxy 3000, or SpecPoxy 3000FS: www.specchemllc.com/#sle.
      d. Substitutions: See Section 01 60 00 - Product Requirements.

C. Slab Isolation Joint Filler: 1/2-inch thick, height equal to slab thickness, with removable top section forming 1/2-inch deep sealant pocket after removal.

D. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches on center; ribbed steel stakes for setting.
   1. Provide removable plastic cap strip that forms wedge-shaped joint for sealant installation.
   2. Height: To suit slab thickness.

E. Expansion and Contraction Joint Devices: ASTM B221 alloy, extruded aluminum; resilient elastomeric filler strip with Shore A hardness of 35 to permit plus or minus 25 percent joint movement with full recovery; extruded aluminum cover plate, of longest manufactured length at each location, flush mounted; color as selected.

2.7 CURING MATERIALS

A. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.

B. Curing and Sealing Compound, Low Gloss: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C1315 Type 1 Class A.

C. Moisture-Retaining Sheet: ASTM C171.
   1. Polyethylene film, white opaque, minimum nominal thickness of 4 mil, 0.004 inch.
   2. Non-staining cotton fabric, weighing not less than 8 oz/per square yd, bonded to prevent separation during handling and placing.

D. Polyethylene Film: ASTM D2103, 4 mil, 0.004 inch thick, clear.

E. Water: Potable, not detrimental to concrete.

2.8 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.

B. Proportioning Structural Lightweight Concrete: Comply with ACI PRC-213 recommendations.

C. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
   1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

D. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.

E. Fiber Reinforcement: Add to mix at rate of 1.5 pounds per cubic yard, or as recommended by manufacturer for specific project conditions.

2.9 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
   1. Fiber Reinforcement: Batch and mix as recommended by manufacturer for specific project conditions.

B. Transit Mixers: Comply with ASTM C94/C94M.

C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

D. Do not use shrinkage-reducing admixture (SRA) in same concrete batch with MVRA or PIA.

PART 3 EXECUTION

3.1 EXAMINATION

A. See Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify requirements for concrete cover over reinforcement.

C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.

B. Remove debris and ice from formwork, reinforcement, and concrete substrates.

C. Remove water from areas receiving concrete before concrete is placed.

D. Verify that forms are clean and free of rust before applying release agent.

E. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

F. Wet sticking anchor rods shall not be permitted.

G. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
   1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
   2. Use latex bonding agent only for non-load-bearing applications.

H. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

I. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
   1. Unroll Vapor Barrier with the longest dimension parallel with the direction of the pour.
   2. Lap Vapor Barrier over footings and seal to foundation walls.
   3. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
   4. Seal all penetrations (including pipes) with pipe boot and tape.

3.3 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

3.4 PLACING CONCRETE

A. Place concrete in accordance with ACI PRC-304.

B. Notify testing laboratory and Architect not less than 24 hours prior to commencement of placement operations.

C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

3.5 SEPARATE FLOOR TOPPINGS

A. Prior to placing floor topping, roughen substrate concrete surface and remove deleterious material. Broom and vacuum clean.

B. Place required dividers, edge strips, reinforcing, and other items to be cast in.

C. Apply bonding agent to substrate in accordance with manufacturer's instructions.

D. Place concrete floor toppings to required lines and levels.
   1. Place topping in checkerboard panels not to exceed 20 feet in either direction.

E. Screed toppings level, maintaining surface flatness of maximum 1:1000.

3.6 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. An independent testing agency, as specified in Section 01 40 00, will inspect finished slabs for compliance with specified tolerances.

B. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
   1. Exposed to View and Foot Traffic: F(F) of 35; F(L) of 25, on-grade only.
   2. Under Thick-Bed Tile: F(F) of 20; F(L) of 15, on-grade only.
   3. Under Carpeting: F(F) of 25; F(L) of 20, on-grade only.
   4. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25, on-grade only.

C. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155/E1155M, within 48 hours after slab installation; report both composite overall values and local values for each measured section.

D. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value.

E. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.7 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

C. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
1. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

D. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1/4 inch per foot nominal.

3.8 CURING AND PROTECTION

A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.9 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Field inspection and testing will be performed by Owner’s testing laboratory in accordance with ACI CODE-318 and applicable code.

C. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.

D. Provide free access to concrete operations at project site and cooperate with appointed firm.

E. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

F. Concrete Inspections:
1. Continuous Placement Inspection: Inspect for proper installation procedures.
2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.

G. Strength Test Samples:
1. Sampling Procedures: ASTM C172/C172M.
2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, field cured.
3. Sample concrete and make one set of four cylinders for every 50 cu yds or less of each class of concrete placed each day and for every 5,000 sf of surface area for slabs and walls.
4. When volume of concrete for any class of concrete would provide less than 5 sets of cylinders, take samples from five randomly selected batches, or from every batch when less than 5 batches are used.
5. Make one additional cylinder during cold weather concreting, and field cure.

H. Field Testing:
1. Slump Test Method: ASTM C143/C143M.
2. Air Content Test Method: ASTM C173/C173M.
3. Temperature Test Method: ASTM C1064/C1064M.
4. Measure slump and temperature for each compressive strength concrete sample.
5. Measure air content in air entrained concrete for each compressive strength concrete sample.

I. Cylinder Compressive Strength Testing:

1. Test Method: ASTM C39/C39M.
2. Test Acceptance: In accordance with ACI CODE-318 and applicable code.
3. Test one cylinder at 7 days.
4. Test two cylinders at 28 days.
5. Retain one cylinder for 56 days for testing when requested by Architect.
6. Dispose remaining cylinders when testing is not required.

J. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

K. Slab Testing: Cooperate with manufacturer of specified moisture vapor reducing admixture (MVRA) to allow access for sampling and testing concrete for compliance with warranty requirements.

L. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.

3.10 PATCHING

A. Allow Architect to inspect concrete surfaces immediately upon removal of forms.

B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Architect upon discovery.

C. Patch imperfections as directed by Architect in accordance with ACI CODE-318.

3.11 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

3.12 PROTECTION

A. If cold weather provisions of ACI PRC-306 are required:
   1. Protect fresh concrete from freezing by heating the ground and forms to minimum temperatures of ACI PRC-306.
   2. Thermally protect the fresh concrete the following durations
      a. Concrete footings/walls - 48 hours after placement
      b. Concrete piers - 72 hours after placement.
      c. Concrete slabs on grade - 72 hours after placement.

B. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Structural composite lumber framing.

C. Rough opening framing for doors, windows.

D. Subflooring.

E. Preservative treated wood materials.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Setting anchors in concrete.

1.3 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

B. ASTM D5456 - Standard Specification for Evaluation of Structural Composite Lumber Products; 2024.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

D. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

E. AWPA U1 - Use Category System: User Specification for Treated Wood; 2025.

F. ICC-ES AC380 - Acceptance Criteria for Termite Physical Barrier Systems; 2021, with Editorial Revision (2022).

G. ITS (DIR) - Directory of Listed Products; Current Edition.

H. PS 1 - Structural Plywood; 2023.

I. PS 2 - Performance Standard for Wood Structural Panels; 2019.

J. PS 20 - American Softwood Lumber Standard; 2025.

K. SPIB (GR) - Standard Grading Rules; 2021.

1.4 SUBMITTALS

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

B. Product Data: Submit technical data on wood treatment.

C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

D. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.6 WARRANTY

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

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for materials and workmanship commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
   2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 EXPOSED DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings.

B. Surfacing: S4S.

C. Moisture Content: S-dry or MC19.

2.3 STRUCTURAL COMPOSITE LUMBER

A. Structural Composite Lumber Materials: Factory-fabricated engineered wood products consisting of wood veneers, strands, or flakes pressed with moisture-resistant adhesive into blocks of material, evaluated in accordance with ASTM D5456.
   1. Laminated Veneer Lumber (LVL): Engineered wood products consisting of thin wood veneer bonded together with adhesive with grain of veneers running parallel to long dimension.
      a. Manufacturer's Published Modulus of Elasticity, E: 2,000,000 psi, minimum.
   2. Parallel Strand Lumber (PSL): Engineered wood products consisting of long wood strands bonded together with adhesive with grain running parallel to long dimension.
      a. Strand Length-to-Thickness Ratio: Approximately 300.
      b. Manufacturer's Published Modulus of Elasticity, E: 1,800,000 psi, minimum.

2.4 EXPOSED BOARDS

A. Submit manufacturer's certificate that products meet or exceed specified requirements, in lieu of grade stamping.

B. Moisture Content: Kiln-dry (15 percent maximum).

C. Surfacing: S4S.

D. Species: Douglas Fir.

E. Grade: No. 2, 2 Common, or Construction.

2.5 CONSTRUCTION PANELS

A. Subfloor/Underlayment Combination: Rated single floor.
   1. Plywood: PS 1.
   2. Oriented Strand Board: PS 2.
   3. Bond Classification: Exposure 1.

B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.6 PRESSURE-PRESERVATIVE TREATMENT (PPT)

A. Manufacturers:
   1. Koppers Performance Chemicals, Inc: www.koppersperformancechemicals.com/#sle.
   2. Viance, LLC; Preserve ACQ: www.treatedwood.com/#sle.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Do not use lumber or plywood treated with chromated copper arsenate (CCA) in exposed exterior applications subject to leaching.

C. Factory-treat wood members in accordance with AWPA U1 and use category indicated.

2.7 ACCESSORIES

A. Metal and Finish of Fasteners:
   1. Preservative-Treated Wood:
      a. Nails, timber rivets, wood screws, and lag screws - general use: Type 304 stainless steel.

B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
   1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing complying with ASTM A653/A653M.

C. Termite-Resistant Sill Plate Barrier: Self-adhesive, film-backed barrier with release sheet; adheres to concrete substrates and blocks termite access.
   1. Thickness: 68 mil, 0.068 inch.
   2. Termite Resistance: 100 percent when tested in accordance with ICC-ES AC380.

PART 3 EXECUTION

3.1 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.3 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.

E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.4 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

C. Provide nonstructural framing and blocking to support the following:
1. Wall brackets.
2. Handrails.
3. Grab bars.
4. Towel and bath accessories.
5. Wall-mounted door stops.

3.5 INSTALLATION OF CONSTRUCTION PANELS

A. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
3. Install adjacent boards without gaps.

3.6 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.7 FIELD QUALITY CONTROL

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

3.8 CLEANING

A. Waste Disposal: See Section 01 74 19 - Construction Waste Management and Disposal.
1. Comply with applicable regulations.
2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.
4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

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SECTION 06 17 53
SHOP-FABRICATED WOOD TRUSSES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Shop-fabricated wood trusses.

B. Truss bridging.

1.2 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry.

1.3 REFERENCE STANDARDS

A. ANSI/TPI 1 - National Design Standard for Metal Plate Connected Wood Truss Construction; 2022.

B. APA/EWA TB 200 - Fire Retardant Treated Plywood

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

D. DOC PS 1 - Construction and Industrial Plywood.

E. DOC PS 2 - Performance Standard for Wood-Based Structural-Use Panels.

F. DOC PS 20 - American Softwood Lumber Standard.

G. RIS (GR) - Standard Specifications for Grades of California Redwood Lumber; 2019.

H. SBCA (BCSI) - Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses; 2018 (Updated 2020).

I. SPIB (GR) - Standard Grading Rules; 2021.

J. WCLIB (GR) - WCLB Standard Grading Rules for West Coast & Imported Softwood Lumber No.18; 2024.

K. WWPA G-5 - Western Lumber Grading Rules; 2025.

1.4 SUBMITTALS

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

B. Product Data: Manufacturer's data sheets on plate connectors, bearing plates, and metal bracing components.

C. Shop Drawings: Show truss configurations, sizes, spacing, size and type of plate connectors, cambers, framed openings, bearing and anchor details, and bridging and bracing.
   1. Provide shop drawings stamped or sealed by design engineer licensed in the state of New York.
   2. Submit design calculations.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with the following:
   1. Lumber Grading Agency: Certified by DOC PS 20

2. Plywood Grading Agency: Certified by APA/EWA
3. Lumber: DOC PS 20
4. Wood Structural Panels: DOC PS 1 or DOC PS 2

B. Apply label from agency approved by authority having jurisdiction to identify each preservative treated and fire retardant treated material.

C. Designer Qualifications: Perform design by or under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State of New York.

D. Fabricator Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

E. Perform Work in accordance with standards of the State of New York .

F. Maintain one copy of each document on site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements

B. Handle trusses in accordance with SBCA (BCSI).

C. Store trusses in vertical position resting on bearing ends.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Truss Plate Connectors:
1. Curtis Lumber Co., Inc., Ballston Spa., NY
2. P & R Truss Company, Sidney, NY
3. Finger Lakes Truss Company, Batavia, NY
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 TRUSSES

A. Wood Trusses: Design and fabricate trusses in accordance with ANSI/TPI 1 and to achieve specified design requirements indicated.

2.3 MATERIALS

A. Lumber:
1. Moisture Content: Between 7 minimum and 19 percent maximum.
2. Lumber fabricated from old growth timber is not permitted.
3. Single top and bottom chord

B. Steel Connectors: Hot-dipped galvanized steel sheet, ASTM A653/A653M Structural Steel (SS) Grade 33/230, with G90/Z275 coating; die stamped with integral teeth; thickness as indicated.

C. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

2.4 ACCESSORIES

A. Wood Blocking, Bridging, Plates, and Miscellaneous Framing: Softwood lumber, Spruce/Pine/Fir, construction grade or better, 19 percent maximum and 7 percent minimum moisture content.

B. Fasteners: Hot-dip galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.

C. Anchors: Toggle bolt type for anchorage to hollow masonry. Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel.

D. Bearing Plates: Hot-dip galvanized steel.

2.5 FABRICATION

A. Fabricate bottom and top chord extensions as indicated on drawings.

B. Frame special sized openings in web framing as indicated on drawings

2.6 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

B. Inspect Work performed at fabricator's facility to verify conformance to Contract Documents.

C. When fabricator is approved by authority having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.
   1. Specified shop inspections are not required for Work performed by approved fabricator.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions

B. Verify that supports and openings are ready to receive trusses.

3.2 PREPARATION

A. Coordinate placement of support items.

3.3 ERECTION

A. Install trusses in accordance with manufacturer's instructions, SBCA (BCSI); maintain a copy of applicable documents on site until installation is complete.

B. Set members level and plumb, in correct position.

C. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in true alignment until completion of erection and installation of permanent bracing.

D. Do not field-cut or alter structural members without approval of Architect.

E. Install permanent bridging and bracing.

F. Frame openings between trusses with lumber in accordance with Section 06 10 00.

G. Coordinate placement of decking with work of this section.

H. After erection, touch-up primed surfaces with primer consistent with shop coat.

3.4 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances

B. Framing Members: 1/2 inch maximum, from true position.

END OF SECTION

SECTION 07 21 19
FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Foamed-in-place insulation.

1.2 REFERENCE STANDARDS

A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

B. ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2025.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

D. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

E. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.

F. UL 1040 - Standard for Safety Fire Test of Insulated Wall Construction; Current Edition, Including All Revisions.

G. UL 1715 - Standard for Safety Fire Test of Interior Finish Material; Current Edition, Including All Revisions.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week prior to commencing work of this section.

1.4 SUBMITTALS

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

B. Product Data: Provide product description, insulation properties, overcoat properties, and preparation requirements.

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

D. Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.

E. Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of all contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified, with minimum three years documented experience, and approved by manufacturer.

1.6 FIELD CONDITIONS

A. Do not apply foam when temperature is below that specified by the manufacturer for ambient air and substrate.

B. Do not apply foam when temperature is within 5 degrees F of dew point.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Foamed-In-Place Insulation:
1. American Sprayed Fibers:
2. Carlisle Spray Foam Insulation: www.carlislesfi.com/#sle.
3. Gaco Western: www.gaco.com/#sle.
4. Henry Company: www.henry.com/#sle.
5. Huntsman Building Solutions: www.huntsmanbuildingsolutions.com/#sle.
6. Johns Manville; JM No Mix Open Cell (NMOC): www.jm.com/#sle.
7. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 MATERIALS

A. Foamed-In-Place Insulation: Medium-density, rigid or semi-rigid, closed cell polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.
1. Regulatory Requirements: Comply with applicable code for flame and smoke, concealment, and fire protection requirements.
2. Thermal Resistance: R-value of 7.1, minimum, per 1-inch thickness at 75 degrees F mean temperature when tested in accordance with ASTM C518.
3. Water Vapor Permeance: Vapor retarder; 2 perms, maximum, when tested at intended thickness in accordance with ASTM E96/E96M, desiccant method.
4. Water Absorption: Less than 2 percent by volume, maximum, when tested in accordance with ASTM D2842.
5. Air Permeance: 0.04 cfm per square foot, maximum, when tested at intended thickness in accordance with ASTM E2178 at 1.57 psf.
6. Closed Cell Content: At least 90 percent.
7. Surface Burning Characteristics: Flame spread/smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
8. Products:
a. BASF Corporation; WALLTITE US: www.spf.basf.com/#sle.
b. Gaco Western; GacoOnePass F1850R: www.gaco.com/#sle.
c. Henry Company: www.henry.com/#sle.
d. Johns Manville; JM IV HFO Closed-cell: www.jm.com/#sle.
e. NCFI Polyurethanes; InsulStar 1.7 HFO 11-033: www.ncfi.com/#sle.
f. Preferred Solutions, Inc; Staycell 504 Closed Cell Spray Foam Insulation: www.preferredsolutions.net/#sle.
g. Substitutions: See Section 01 60 00 - Product Requirements.

2.3 ACCESSORIES

A. Primer: As required by insulation manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify work within construction spaces or crevices is complete before insulation application.

B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation adhesion.

3.2 PREPARATION

A. Mask and protect adjacent surfaces from over spray or dusting.

B. Apply primer in accordance with manufacturer's instructions.

3.3 APPLICATION

A. Apply insulation in accordance with manufacturer's instructions.

B. Apply insulation by spray method, to a uniform monolithic density without voids.

C. Apply to achieve a thermal resistance R-value of R-24.

D. Patch damaged areas.

3.4 FIELD QUALITY CONTROL

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

3.5 PROTECTION

A. Do not permit subsequent construction work to disturb applied insulation.

END OF SECTION

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SECTION 07 21 26
BLOWN INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Ceiling and Attic: Blown insulation pneumatically placed into joist spaces through access holes.

1.2 REFERENCE STANDARDS

A. ASTM C739 - Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation; 2025.

B. ASTM C764 - Standard Specification for Mineral Fiber Loose-Fill Thermal Insulation; 2025.

C. ASTM C1015 - Standard Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation; 2017 (Reapproved 2025).

1.3 SUBMITTALS

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

B. Product Data: Provide data on product characteristics, performance criteria, limitations.

C. Certificates: Certify that products of this section meet or exceed specified requirements.

D. Manufacturer's Installation Instructions: Indicate procedure for preparation and installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Blown Insulation:
   1. CertainTeed Corporation: www.certainteed.com/#sle.
   2. Johns Manville: www.jm.com/#sle.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 MATERIALS

A. Applications: Provide blown insulation in attic and ceiling as indicated on drawings.

B. Blown Insulation: ASTM C764, fiberglass type, nodulated for pour and bulk for pneumatic placement.
   1. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum.
   2. Installed Thickness: As indicated on drawings.
   3. Thermal Resistance (R-value 3.1: 11.0 sq ft hr deg F/BTU inch, minimum.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate and adjacent materials are dry and ready to receive insulation.

B. Verify spaces are unobstructed to allow for proper placement of insulation.

3.2 INSTALLATION

A. Install insulation in accordance with ASTM C1015 and manufacturer's instructions.

B. Completely fill intended spaces leaving no gaps or voids.

3.3 CLEANING

A. Remove loose insulation residue.

END OF SECTION

SECTION 07 41 13
METAL ROOF PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Snow Guards

B. Metal roof panel system of preformed steel panels.

1.2 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Roof sheathing.

1.3 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

C. ASTM E1592 - Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference; 2025.

D. ASTM E1646 - Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference; 1995 (Reapproved 2024).

E. ASTM E1680 - Standard Test Method for Rate of Air Leakage through Exterior Metal Roof Panel Systems; 2016 (Reapproved 2022).

F. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Summary of test results, indicating compliance with specified requirements.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Specimen warranty.

C. Shop Drawings: Include layouts of roof panels, details of edge and penetration conditions, spacing and type of connections, flashings, underlayments, and special conditions.
   1. Show work to be field-fabricated or field-assembled.

D. Selection Samples: For each roofing system specified, submit color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each roofing system specified, submit samples of minimum size 12 inches square, representing actual roofing metal, thickness, profile, color, and texture.
   1. Include typical panel joint in sample.
   2. Include typical fastening detail.

F. Manufacturer's qualification statement.

G. Installer's qualification statement.

H. Test Reports: Indicate compliance of metal roofing system to specified requirements.

I. Warranty: Submit specified manufacturer's warranty and ensure that forms have been completed in Owner's name and are registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Installer Qualifications: Company trained and authorized by roofing system manufacturer with minimum five years documented experience.

C. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise recommended by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Provide strippable plastic protection on prefinished roofing panels for removal after installation.

B. See Section 01 60 00 - Product Requirements, for transporting, handling, storing, and protecting products.

C. Materials shall be delivered to the site in a dry and undamaged condition, and unloaded per the manufacturer's instructions. The installer shall inspect materials for damage and stains upon arrival to the site. Materials shall be stored out of contact with the ground in weathertight coverings to keep them dry per manufacturer's recommendations. Storage accommodations shall provide good air circulation and protection from surface staining.

D. Stack materials to prevent twisting, bending, abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

E. Prevent contact with materials causing discoloration or staining.

1.7 WARRANTY

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

B. Finish Warranty: Provide 5-year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking. Complete forms in Owner's name and register with warrantor.

C. Special Warranty: Provide 2-year warranty for weathertightness of roofing system, including agreement to repair or replace metal roof panels that fail to keep out water commencing on the Date of Substantial Completion. Complete forms in Owner's name and register with warrantor.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Metal Roof System Manufacturers are:
1. ATAS International, Inc; Colonial Seam: www.atas.com/#sle.
2. Centria, Inc.;:www.centria.com
3. MBCI, a Cornerstone Building Brands Company; 5V Crimp Panel: www.mbci.com/#sle.
4. Metal Roofing Systems, Inc: www.metalroofingsystems.biz/#sle.
5. Metl-Span, a Division of NCI Group, Inc: www.metlspan.com/#sle.
6. Petersen Aluminum Corporation: www.pac-clad.com/#sle.

B. Acceptable Snow Guard Manufacturers are:
   1. Alpine SnowGuards [<>]: www.alpinesnowguards.com.
   2. Snow Management Systems [<>]: www.snowmanagementsystems.com.
   3. L.M. Curbs. [<>]: www.lmcurbs.com.
   4. Sno-Gem, Inc.: www.snogem.com.

C. Acceptable Eave Protection Manufacturers are:
   1. Owens Corning <>: Weatherlock Mat Waterproofing, roofing.owenscorning.com.
   2. Grace : Ice & Water Shield, www.grace.com.

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

2.2 PERFORMANCE REQUIREMENTS

A. Metal Roof Panels: Provide complete roofing assemblies, including roof panels, clips, fasteners, connectors, and miscellaneous accessories, tested for compliance with the following minimum standards:
   1. Structural Design Criteria: Provide panel assemblies designed to safely support design loads at support spacing indicated, with deflection not to exceed L/180 of span length(L) when tested in accordance with ASTM E1592.
      a. Dead Loads: Weight of roofing system.
   2. Overall: Complete weathertight system tested and approved in accordance with ASTM E1592.
   3. Thermal Movement: Design system to accommodate without deformation anticipated thermal movement over ambient temperature range of 100 degrees F.

2.3 STRUCTURAL METAL ROOF PANELS

A. General: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.

2.4 METAL ROOF PANELS

A. Metal Roof Panels: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.

B. Metal Panels: Factory-formed panels with factory-applied finish.
   1. Steel Panels:
      a. Zinc-coated steel complying with ASTM A653/A653M; minimum G60 galvanizing.
      b. Steel Thickness: Minimum 20 gauge, 0.032 inch.
   2. Profile: Standing seam, with minimum 1-inch seam height; concealed fastener system for field seaming with special tool.
   3. Texture: Smooth.
   4. Width: Maximum panel coverage of 24 inches.

2.5 ATTACHMENT SYSTEM

A. Concealed System: Provide manufacturer's standard stainless steel or nylon-coated aluminum concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.

2.6 FABRICATION

A. Panels: Provide factory or field fabricated panels with applied finish and accessory items, using manufacturer's standard processes as required to achieve specified appearance and performance requirements.

B. Joints: Provide captive gaskets, sealants, or separator strips at panel joints to ensure weathertight seals, eliminate metal-to-metal contact, and minimize noise from panel movements.

2.7 FINISHES

A. Fluoropolymer Coil Coating System: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin, and at least 80 percent of coil coated metal surfaces having minimum total dry film thickness (DFT) of 0.9 mil, 0.0009 inch; color and gloss as selected by Architect from manufacturer's standard line.

2.8 ACCESSORIES

A. Miscellaneous Sheet Metal Items: Provide flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, and equipment curbs of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.

B. Rib and Ridge Closures: 1 inch high, narrow batten, close-fitting cap of steel with corrosion resistant finish, closed-cell synthetic rubber, neoprene, or PVC, combination steel and closed-cell foam, copper, or prefinished aluminum.

C. Sealants:
1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
2. Concealed Sealant: Non-curing butyl sealant or tape sealant.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Coordinate roofing work with provisions for roof drainage, flashing, trim, penetrations, and other adjoining work to ensure that completed roof will be free of leaks.

B. Remove protective film from surface of roof panels immediately prior to installation; strip film carefully to avoid damage to prefinished surfaces.

C. Separate dissimilar metals by applying a bituminous coating, self-adhering rubberized asphalt sheet, or other permanent method approved by metal roof panel manufacturer.

D. At locations where metal will be in contact with wood or other absorbent material subject to wetting, seal joints with sealing compound and apply one coat of heavy-bodied bituminous paint.

3.3 INSTALLATION

A. Overall: Install roofing system in accordance with approved shop drawings and metal roof panel manufacturer's instructions and recommendations, as applicable to specific project conditions; securely anchor components of roofing system in place allowing for thermal and structural movement.
1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.
2. Minimize field cutting of panels. Where field cutting is required, use methods that will not distort panel profiles. Use of torches for field cutting is prohibited.

B. Accessories: Install necessary components that are required for complete roofing assembly, including flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, equipment curbs, rib closures, ridge closures, and similar roof accessory items.

C. Roof Panels: Install metal roof panels in accordance with manufacturer's installation instructions, minimizing transverse joints except at junction with penetrations.

D. Snow Guards:
   1. Install snow guards in accordance with manufacturer's instructions.

3.4 CLEANING

A. Clean exposed sheet metal work at completion of installation. Remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving the work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to the finish.

3.5 PROTECTION

A. Do not permit storage of materials or roof traffic on installed roof panels. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect roofing until completion of project.

B. Touch-up, repair, or replace damaged roof panels or accessories before Date of Substantial Completion.

END OF SECTION

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SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Precast concrete splash pads.

1.2 RELATED REQUIREMENTS

A. Section 07 71 23 - Manufactured Gutters and Downspouts.

1.3 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

C. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2022.

D. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.4 SUBMITTALS

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

1.5 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Perform work in accordance with ANSI/SPRI/FM 4435/ES-1 requirements for pull-off resistance to design wind pressure as defined by applicable local building code.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Sheet Metal Flashing and Trim:
   1. ALUCOBOND by 3A Composites USA; ALUCOBOND AXCENT: www.alucobondusa.com/#sle.

2. Fairview Architectural LLC: www.fairview-na.com/#sle.
3. Hickman Edge Systems: www.hickmanedgesystems.com/#sle.
4. Petersen Aluminum Corporation: www.pac-clad.com/#sle.
5. Tamlyn: www.tamlyn.com/#sle.
6. Taylor Metal Products: www.taylormetal.com/#sle.
7. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 SHEET MATERIALS

2.3 PREFINISHED ALUMINUM SHEETS

A. Aluminum Sheet Substrates: ASTM B209/B209M, alloy and temper as recommended by manufacturer for application.

B. Superior Performance Organic Coating System: Comply with AAMA 2605 for aluminum preparation, pretreatment, primer and finish coat system; provide thermally cured 70-percent PVDF fluoropolymer systems; tested for weathering for 10 years with 5 delta units color change maximum.

C. Application: _____.
1. Base Metal Thickness: 0.040 inch, minimum.
2. Color: As selected by Architect from manufacturer's standard colors.

2.4 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.

F. Fabricate flashings to allow toe to extend 2 inches over roofing membrane. Return and brake edges.

2.5 GUTTERS AND DOWNSPOUTS

A. See Section 07 71 23 for manufactured gutters and downspouts.

B. Splash Pads: Precast concrete type, of size and profiles indicated; minimum 3,000 psi at 28 days, with minimum 5 percent air entrainment.

C. Seal metal joints.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install scuppers to lines and levels indicated on Drawings. Seal top of reglets with sealant

C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.3 INSTALLATION

A. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Seal metal joints watertight.

E. Secure gutters and downspouts in place with concealed fasteners.

F. Set splash pads under downspouts.

3.4 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

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SECTION 07 71 23
MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Gutters and downspouts.

B. Splash guards.

1.2 RELATED REQUIREMENTS

A. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.3 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

C. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

D. CDA A4050 - Copper in Architecture - Handbook; Current Edition.

E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.4 SUBMITTALS

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

B. Product Data: Provide data on prefabricated components.

1.5 DELIVERY, STORAGE, AND HANDLING

A. See Section 01 74 19 - Construction Waste Management and Disposal for packaging waste requirements.

B. Stack material to prevent twisting, bending, or abrasion and to provide ventilation. Slope to drain.

C. Prevent contact with materials that cause discoloration, staining, or damage.

1.6 WARRANTY

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

B. Manufacturer Warranty: Provide 5-year manufacturer warranty for material and workmanship. Complete forms in Owner's name and register with manufacturer.

C. Finish Warranty: Provide 5-year manufacturer warranty against excessive degradation of exterior PVDF finish. Include provision for replacing units with excessive fading or chalking. Complete forms in Owner's name and register with manufacturer.

1.7 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for gutter and downspout finishes.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Gutters and Downspouts:
1. Metal Era Roof Edge Systems
2. Cheney Flashing Company: www.cheneyflashing.com/#sle.
3. Hickman Edge Systems: www.hickmanedgesystems.com/#sle.
4. Metal-Era Inc: www.metalera.com/#sle.

2.2 DESIGN CRITERIA

A. Comply with SMACNA (ASMM) for sizing components for rainfall intensity determined by storm occurrence of 1 in 5 years.

B. Comply with applicable code for size and method of rainwater discharge.

2.3 GUTTERS AND DOWNSPOUTS

A. Gutters: SMACNA (ASMM) rectangular profile.

B. Anchors and Supports: Profiled to suit gutters and downspouts.
1. Anchoring Devices: Type recommended by manufacturer.
2. Gutter Supports: Brackets.
3. Downspout Supports: Brackets.

C. Fasteners: Stainless steel, with soft neoprene washers.

2.4 SPLASH GUARDS

A. Splash Pads: Precast concrete type, standard profiles and sizes ; minimum 3,000 psi compressive strength at 28 days, with minimum 5 percent air entrainment.

2.5 SHOP FABRICATION

A. Form gutters and downspouts of profiles and size indicated in construction documents.

B. Fabricate with required connection pieces.

C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints; comply with CDA A4050

D. Hem exposed edges of metal.

E. Fabricate gutter and downspout accessories; seal watertight.

2.6 FINISHES

A. Prefinished Aluminum Sheets: Factory-applied topcoat systems applied to aluminum flat sheet substrates prior to fabrication by coil coating; topcoat systems consist of primers and organic topcoats on exposed side and backing coats on unexposed side.

1. Aluminum Sheet Substrates: ASTM B209/B209M, alloy and temper as recommended by manufacturer for application.
2. Superior Performance Organic Coating System: Comply with AAMA 2605 for aluminum preparation, pretreatment, primer, and finish coat system; provide thermally cured 70-percent PVDF fluoropolymer systems; tested for weathering for 10 years with 5 delta units color change maximum.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify surfaces are acceptable for product installation in accordance with manufacturer's written instructions.

B. Notify Architect in writing of conditions detrimental to completion of work. Do not proceed with installation until detrimental conditions are corrected.

3.2 PREPARATION

A. Paint concealed sheet metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to minimum dry film thickness of 15 mils, 0.015 inch.

3.3 INSTALLATION

A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.

B. Sheet Metal: Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts and accessories.

C. Slope gutters 1/4 inch per 10 feet, minimum.

D. Connect downspouts to downspout boots at 12 inches above grade. Grout connection watertight.

E. Set splash pans under downspouts. Secure in place

END OF SECTION

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SECTION 07 72 00
ROOF ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Ridge vents.

B. Snow guards.

1.2 REFERENCE STANDARDS

A. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

1.3 SUBMITTALS

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

B. Product Data: Manufacturer's data sheets on each product to be used.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Maintenance requirements.

C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.
   1. Snow Guards: Submit design calculations for loadings and spacings based on manufacturer testing.
   2. Submit shop drawings sealed and signed by a Professional Engineer experienced in design of this type of work and licensed in the State of New York.

D. Warranty Documentation:
   1. Submit manufacturer warranty.
   2. Ensure that forms have been completed in Owner's name and registered with manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store products under cover and elevated above grade.

1.5 WARRANTY

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

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for _____. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 SNOW GUARDS

A. Fence Type Snow Guard: Continuous snow guard; manufacturer's standard pipe, bar, channel, or solid rod, set in brackets or posts, with optional plates and metal trim to match roof.

B. Clamps for Standing Seam Roof: Aluminum clamps attached to standing seams of roof panels; for attachment of fence type snow guard.
   1. Seam Profile: Selected by Architect from manufacturer's standard range; match profile of metal roof.
   2. Finish: Powder coating with color to match roof.

C. Products:
   1. Alpine SnowGuards; ASG4025-AL Standing Seam Two-Pipe Snow Guard: www.alpinesnowguards.com/#sle.
   2. Berger Building Products: www.bergerbp.com/#sle.
   3. PMC Industries, Inc; _____: www.aceclamp.com/#sle.
   4. Rocky Mountain Snow Guards, Inc; No-Flash 2 Pipe or 3 Pipe Snow Fence Bracket: www.rockymountainsnowguards.com/#sle.
   5. TRA Snow and Sun; C22Z Clamp-On: www.trasnowandsun.com/#sle.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

SECTION 07 92 00
JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.2 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Additional requirements for sealants and primers.

1.3 REFERENCE STANDARDS

A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015 (Reapproved 2022).

B. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants; 2018 (Reapproved 2022).

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

D. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2023.

E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.

F. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.

G. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

H. UL 263 - Standard for Fire Tests of Building Construction and Materials; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Backing material recommended by sealant manufacturer.
   4. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   5. Substrates the product should not be used on.
   6. Substrates for which use of primer is required.
   7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
   8. Sample product warranty.
   9. Certification by manufacturer indicating that product complies with specification requirements.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

F. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

G. Manufacturer's qualification statement.

H. Installer's qualification statement.

1.5 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

D. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
1. Adhesion Testing: In accordance with ASTM C794.
2. Compatibility Testing: In accordance with ASTM C1087.
3. Allow sufficient time for testing to avoid delaying the work.
4. Deliver sufficient samples to manufacturer for testing.
5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.

E. Field Quality Control Plan:
1. Visual inspection of entire length of sealant joints.
2. Field testing agency's qualifications.
3. Field Quality Control Log Form: Show same data fields as on Preinstallation Field Adhesion Test Log, with known information filled out and lines for multiple tests per sealant/substrate combinations; include visual inspection and specified field testing; allow for possibility that more tests than minimum specified may be necessary.

1.6 WARRANTY

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

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Nonsag Sealants:
1. Adfast USA Inc: www.adfastcorp.com/#sle.
2. Bostik Inc: www.bostik-us.com/#sle.
3. Dow: www.dow.com/#sle.

4. Hilti, Inc: www.hilti.com/#sle.
5. Master Builders Solutions: www.master-builders-solutions.com/en-us/#sle.
6. Pecora Corporation: www.pecora.com/#sle.
7. Sika Corporation: www.usa.sika.com/#sle.
8. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
9. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products with acceptable levels of volatile organic compound (VOC) content; see Section 01 61 16.

2.3 NONSAG JOINT SEALANTS

A. Type Grade NS - Nonstaining Silicone Sealant: ASTM C920, Grade NS, Uses M, A, G, and O; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 50 percent, minimum.
   2. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.
   5. Color: Match adjacent finished surfaces.
   6. Service Temperature Range: Minus 20 to 180 degrees F.
   7. Products:
      a. Adfast USA Inc; Adseal LM 4600 Series: www.adfastcorp.com/#sle.
      b. Adfast USA Inc; Adseal DWS 4580 Series: www.adfastcorp.com/#sle.
      c. Dow; DOWSIL 756 SMS Building Sealant: www.dow.com/#sle.
      d. Dow; DOWSIL 790 Silicone Building Sealant: www.dow.com/#sle.
      e. Dow; DOWSIL 791 Silicone Weatherproofing Sealant, Carbon Neutral: www.dow.com/#sle.
      f. Pecora Corporation; Pecora 890 NST (Non-Staining Technology): www.pecora.com/#sle.
      g. Pecora Corporation; Pecora 864 NST (Non-Staining Technology): www.pecora.com/#sle.
      h. Sika Corporation; Sikasil WS-290: usa.sika.com/#sle.
      i. Sika Corporation; Sikasil WS-295: usa.sika.com/#sle.
      j. Substitutions: See Section 01 60 00 - Product Requirements.

B. Type ___ - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: White.

C. Type ___ - Noncuring Butyl Sealant: Solvent-based, single component, nonsag, nonskinning, nonhardening, nonbleeding; nonvapor permeable; intended for fully concealed applications.

2.4 SELF-LEVELING JOINT SEALANTS

2.5 ACCESSORIES

A. Sealant Backing Materials, General: Materials placed in joint before applying sealants; assists sealant performance and service life by developing optimum sealant profile and preventing three-sided adhesion; type and size recommended by sealant manufacturer for compatibility with sealant, substrate, and application.

B. Sealant Backing Rod, Open-Cell Type:
   1. Cylindrical flexible sealant backings complying with ASTM C1330 Type O.
   2. Size: 25 to 50 percent larger in diameter than joint width.

C. Sealant Backing Rod, Bi-Cellular Type:
   1. Cylindrical flexible sealant backings complying with ASTM C1330 Type B.
   2. Size: 25 to 50 percent larger in diameter than joint width.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.2 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install bond breaker backing tape where backer rod cannot be used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.4 FIELD QUALITY CONTROL

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

B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

SECTION 08 11 13
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

B. Hollow metal borrowed lites glazing frames.

C. Accessories, including glazing.

1.2 RELATED REQUIREMENTS

A. Section 08 80 00 - Glazing: Glass for doors and borrowed lites.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.

C. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2025.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

E. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2026.

F. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2025.

G. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials,

H. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.

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

J. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

K. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2024.

L. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.

M. NFPA 101-2018 - Life Safety Code; 2018.

N. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025, with Amendment (2024).

O. UL 263 - Standard for Fire Tests of Building Construction and Materials.

1.4 SUBMITTALS

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

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

E. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.

B. Maintain at project site copies of reference standards relating to installation of products specified.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Hollow Metal Doors and Frames:
1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. Assa Abloy Curries; Product "M" Series: www.assaabloydss.com.
3. Premier Steel Doors and Frames: www.trustpremier.com/#sle.
4. Republic Doors, an Allegion brand: www.republicdoor.com/#sle.
5. Steelcraft, an Allegion brand: www.allegion.com/#sle.
6. Titan Metal Products, Inc; Builders Series 20 - 90 Minute Doors: www.titanmetalproducts.com/#sle.
7. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Doors and Frames:
1. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
2. Accessibility: Comply with ICC A117.1 and ADA Standards.
3. Door Edge Profile: Manufacturers standard for application indicated.
   a. Provide continuously welded seamless edge.
4. Typical Door Face Sheets: Flush.
5. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturer's standard.
6. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

a. Min. 7 gauge reinforcement at hinge locations.
b. Min. 12 gauge reinforcement at locksets, closers and panic hardware.

7. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.3 HOLLOW METAL DOORS

A. Type 2 ,Interior Doors, Non-Fire Rated:
1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
a. Level 2 - Heavy-duty.
b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
c. Model 1 - Full Flush.
d. Door Face Metal Thickness: 18 gauge, 0.042 inch, minimum.
2. Core: Steel channel grid .
3. Door Thickness: 1-3/4 inches, nominal.
4. Door Finish: Factory primed and field finished.

2.4 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
1. Fabricate frames with hardware reinforcement plates welded in place.
a. Hinge: Min. 7 gauge x 1 5/8 x 10 inches.
b. Lock Strike: Minimum 14 gauge x template requirements.

B. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
1. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch, maximum, above floor at 45 degree angle.
2. Frame Metal Thickness: 14 gage, 0.067 inch, minimum.

C. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

2.5 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15 mil, 0.015 inch dry film thickness (DFT) per coat; provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.6 ACCESSORIES

A. Glazing: As specified in Section 08 80 00, factory installed.

B. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws.

C. Silencers: Specified in Section 08 71 00. Resilient vinyl, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

D. Anchors:
   1. Stud Wall: Steel stud anchor.
   2. New Masonry: Adjustable masonry strap anchor.
   3. Existing Masonry: Counter sunk screw with sleeve.
      a. Counter sunk fasteners shall be covered with a suitable hard setting filling compound, sanded and finished to match frame.

E. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.7 EXISTING DOOR AND/OR FRAME ASSEMBLY FIRE INSPECTIONS

A. Independent testing agency requirements for fire rating inspections at existing doors and/or frames:
   1. Acceptable Testing Agencies: Guardian Testing Lab, 399 Prospect Avenue Buffalo, NY 14201-1139; www.firetesting.com.
   2. Doors and/or frames to be field tested in accordance with NFPA 101, ASTM E-119 and E152.
   3. Provide labels on doors and frames to state the acceptable fire rating requirement.
   4. See schedule on drawings for required locations.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.2 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.3 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Coordinate frame anchor placement with wall construction.

C. Coordinate installation of hardware specified in Section 08 71 00.

D. Coordinate installation of glazing specified in Section 08 80 00.

3.4 ADJUSTING

A. Adjust for smooth and balanced door movement.

END OF SECTION

SECTION 08 16 13
FIBERGLASS DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fiberglass doors.

B. Fiberglass door frames.

1.2 RELATED REQUIREMENTS

A. Section 08 12 13 - Hollow Metal Frames: Metal frames.

B. Section 07 92 00 - Joint Sealants.

C. Section 08 71 00 - Door Hardware.

D. Section 08 80 00 - Glazing.

1.3 REFERENCE STANDARDS

A. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2026.

C. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics; 2024.

D. ASTM D570 - Standard Test Method for Water Absorption of Plastics; 2022.

E. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2022.

F. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials; 2025.

G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

H. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

I. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

J. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

K. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights; 2023.

L. IBC 2603.4.1.7 - Standard for Plastic Foam Insulation in Non-Rated Swinging Doors.

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

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Obtain hardware templates from hardware manufacturer prior to starting fabrication.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's standard details, installation instructions, hardware and anchor recommendations.
   1. Provide details of core, stile and rail construction, trim for lites and all other components.
   2. Include details of finish hardware mounting.

C. Shop Drawings: Indicate layout and profiles; include assembly methods.
   1. Indicate product components, including hardware reinforcement locations and preparations, accessories, finish colors, patterns, and textures.
   2. Indicate wall conditions, door and frame elevations, sections, materials, gauges, finishes, location of door hardware by dimension, and details of openings; use same reference numbers indicated on drawings to identify details and openings.

D. FRP Face Sheet Samples: Submit two complete sets of color chips, illustrating manufacturer's available finishes, colors, and textures.

E. Door Corner Sample: Submit corner cross sections, 10 inch by 10 inch in size, illustrating face sheets, core, framing, finish, joints, fasteners, accessory items (lites, integral hardware) and quality of workmanship for approval prior to fabrication.

F. Test Reports: Submit certified test reports from qualified independent testing agency indicating doors comply with specified performance requirements.

G. Maintenance Data: Include instructions for repair of minor scratches and damage.

H. Specimen warranty.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than 10 years of documented experience. Provide comprehensive list of completed projects of similar building type and size as this project with submittal package.

B. The manufacturer or his representative shall be available for consultation to all parties engaged in the project including instruction to installation personnel.

C. Unless otherwise indicated, obtain FRP doors and frames from a single company specializing in the type of construction required so that there will be undivided responsibility for the specified performance of all component parts including glazing for FRP doors and factory installation of door hardware.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

B. Store materials in original packaging, under cover, protected from exposure to harmful weather conditions and from direct contact with water.
   1. Store at temperature and humidity conditions recommended by manufacturer.
   2. Do not use non-vented plastic or canvas shelters.
   3. Immediately remove wet wrappers.

C. Store in position recommended by manufacturer, elevated minimum 4 inches above grade, with minimum 1/4 inch space between doors.

1.8 FIELD CONDITIONS

A. Do not install doors until structure is enclosed.

1.9 WARRANTY

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

B. Provide written warranty signed by manufacturer, installer and contractor, agreeing to replace, at no cost to the Owner, any doors, frames or factory hardware installation against failure in materials or workmanship within the warranty period. Failure of materials or workmanship includes: excessive deflection, faulty operation of entrances, deterioration of finish or construction in excess of normal weathering and defects in hardware installation. The minimum time period of warranty is ten (10) years from Date of Substantial Completion .

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Fiberglass Composite Doors:
1. Chem Pruf; P Series: www.chem-pruf.com.
2. FRP Architectural Doors, Inc.; CF34: www.frparch.com.
3. Special-Lite, Inc; AF-220 Sandstone: www.special-lite.com/#sle.
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 DOOR AND FRAME ASSEMBLIES

A. Door and Frame Assemblies: Factory-fabricated, prepared and machined for hardware.
1. Operation: Manual.
2. Physical Endurance: Swinging door cycle test to ANSI/SDI A250.4, Level A (1,000,000 cycles) minimum; tested with hardware and fasteners intended for use on project.
3. Screw-Holding Capacity: Tested to 890 pounds, minimum.
4. Surface Burning Characteristics: Flame spread index (FSI) of 0 to 25, Class A, and smoke developed index (SDI) of 450 or less, when tested in accordance with ASTM E84.
5. Flammability: Self-extinguishing when tested in accordance with ASTM D635.
6. Chemical Resistance: Resist degradation due to exposure to tap water and distilled water.
7. Sizes: As indicated on drawings.
8. Clearance Between Door and Frame: 1/8 inch, maximum.
9. Clearance Between Bottom of Door and Finished Floor: 3/4 inch, maximum; not less than 1/4 inch clearance to threshold.
10. Provide frame anchors that allow for variation in rough opening size; field cutting of doors or frames to fit is not permitted.

2.3 COMPONENTS

A. Doors: Fiberglass construction with reinforced core.
1. Type: As indicated on drawings, including swinging doors.
2. Thickness: 1-3/4 inch, nominal.
3. Core Material: Urethane foam.
4. Core Material: Mineral fiber, fire-rated doors, 18 pcf minimum density.
5. Construction:
a. Molded fiberglass shells with color gel coating, bonded into seamless unit; manufacturer's standard subframe and hardware reinforcements.
b. Fiberglass ultraviolet resistant mylar coated, with 1/8 inch thick through color face sheets laminated to core.
6. Door Panel Configuration: As indicated on drawings.

7. Subframe and Reinforcements: Fiberglass pultrusions; no metal or wood.
8. Waterproof Integrity: Provide factory fabricated edges, cut-outs, and hardware preparations of fiberglass reinforced plastic (FRP); provide cut-outs with joints sealed independently of glazing, louver inserts, or trim.
9. Hardware Preparations: Factory reinforce, machine, and prepare for door hardware including field installed items; provide solid blocking for each item; field cutting, drilling or tapping is not permitted; obtain manufacturer's hardware templates for preparation as necessary.

B. Frames: Profiles and dimensions as indicated on drawings.
1. Profiles: As indicated on drawings.
2. Door Stop: 5/8 inch wide, by 1-7/8 inches deep.
3. Non-Fire-Rated:
   a. Fiberglass pultrusions primed for field painting.
4. Corner Joints: Mitered with concealed corner blocks or angles of same material as frame; fiberglass joined with screws; sealed watertight with silicone sealant; field assemble knock-down type frames as required.
   a. Allow for thermal expansion on exterior units.
5. Hardware Cut-outs: Provide continuous backing or mortar guards of same material as frame, with watertight seal.
6. Frame Anchors: Stainless steel, Type 304; provide three anchors in each jamb for heights up to 84 inches with one additional anchor for each additional 24 inches in height.
7. Reinforcing: Provide manufacturer's standard reinforcing at hinge, strike, and closer locations.

2.4 PERFORMANCE REQUIREMENTS

A. Provide door assemblies that have been designed and fabricated in compliance with specified performance requirements.

B. Water Leakage: No uncontrolled leakage on interior face when tested in accordance with ASTM E331 at differential pressure of 7.5 psf.

C. Air Leakage: Maximum 0.1 cfm/sf, when tested in accordance with ASTM E283/E283M at differential pressure of 6.24 psf across assembly.

D. Structural Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.

E. Thermal Transmittance, Exterior Doors: AAMA 1503, U-value of 0.18, maximum, measured on exterior door in size required for this project.

F. Fiberglass Reinforced Plastic (FRP) Face Sheet Properties:
1. Izod Impact Resistance: ASTM D256, 7 foot-pound force per inch of width, minimum, with notched izod.
2. Water Absorption: ASTM D570, 0.16 percent, maximum, after 24 hours at 74 degrees F.
3. Flexural Strength: ASTM D790, 27,000 psi, minimum.

2.5 FINISHES

A. Primer: Aliphatic urethane for field finishing.

2.6 HARDWARE

A. Door Hardware: See Section 08 71 00.
1. Pre-machine doors in accordance with templates from specified hardware supplier.

2.7 ACCESSORIES

A. Stops for Glazing and Louver: Fiberglass, unless otherwise indicated or required by fire rating; provided by door manufacturer to fit factory made openings, with color and texture to match door; fasteners shall maintain waterproof integrity.
   1. Exterior Doors: Provide non-removable stops on exterior side with continuous compression gasket weatherseal.
   2. Glazed Openings: Provide removable stops on interior side.
   3. Opening Sizes and Shapes: As indicated on drawings.

B. Glazing: See Section 08 80 00.
   1. Allow for thermal expansion on exterior units.

C. Louvers for Fire-Rated Doors: UL (DIR) listed and labeled self-closing fire damper louvers actuated with fusible link; galvanized steel with overlapping trim frame both sides of door.

2.8 FABRICATION

A. Field measure before fabrication and show recorded measurements on final shop drawings.

B. Maintain continuity of line and accurate relation of planes and angles. Secure attachments and support at mechanical joints with hairline fit at contacting members.

C. All hardware with the exception of door closer, threshold and weatherstripping to be shipped to door manufacturer. Door manufacturer shall install hardware on doors and warranty attachment for ten years. Complete fabrication, assembly, finishing and other work before shipment to project site. Disassemble components only as necessary for shipment and installation.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify actual dimensions of openings by field measurements before door fabrication; show recorded measurements on shop drawings.

B. Do not begin installation until substrates have been properly prepared.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Remove existing doors and frames, and dispose of all removed materials in accordance with local authorities having jurisdiction.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Clean and prepare substrate in accordance with manufacturer's directions.

D. Protect adjacent work and finish surfaces from damage during installation.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions; do not penetrate frames with anchors.

B. Install door hardware as specified in Section 08 71 00.

C. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.

D. Set thresholds in continuous bed of sealant and backseal.

E. In masonry walls, install frames prior to laying masonry; anchor frames into masonry mortar joints; fill jambs with grout as walls are laid up.

F. In stud walls, install frames prior to building walls; anchor frames to studs using concealed anchors.

G. Separate aluminum and other metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.

H. Provide thermal isolation where components penetrate or disrupt building insulation. Coordinate attachment and seal of perimeter air and vapor retarder materials. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

I. Repair or replace damaged installed products.

3.4 ADJUSTING

A. Lubricate, test, and adjust doors to operate easily, free from warp, twist or distortion, and to fit watertight for entire perimeter.

B. Adjust hardware for smooth and quiet operation.

C. Adjust doors to fit snugly and close without sticking or binding.

3.5 CLEANING

A. Clean installed products in accordance with manufacturer’s instructions prior to owner’s acceptance.

B. Do not use harsh cleaning materials or methods that would damage finish.

3.6 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

SECTION 08 36 13
SECTIONAL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Overhead sectional doors, electrically operated.

B. Operating hardware and supports.

C. Electrical controls and electric sensing edge.

1.2 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Rough wood framing for door opening.

B. Section 08 71 00 - Door Hardware: Lock cylinders.

C. Section 26 05 33.13 - Conduit for Electrical Systems: Conduit from electric circuit to operator and from operator to control station.

D. Section 26 05 83 - Wiring Connections.

1.3 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

B. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

C. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

D. DASMA 102 - American National Standard Specifications for Sectional Doors; 2018.

E. ITS (DIR) - Directory of Listed Products; Current Edition.

F. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts; 2008 (Reaffirmed 2020).

G. NEMA MG 00001 - Motors and Generators; 2024.

H. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

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

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

K. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Product Data: Show component construction, anchorage method, and hardware.

D. Manufacturer's Installation Instructions: Include any special procedures required by project conditions.

E. Operation Data: Include normal operation, troubleshooting, and adjusting.

F. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.

1.5 QUALITY ASSURANCE

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

B. Comply with applicable code for motor and motor control requirements.

C. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction, as suitable for purpose specified.

1.6 WARRANTY

A. Furnish ten year warranty for door panels against delamination of insulation from steel skin.

B. Manufacturer Warranty: Provide 5-year manufacturer warranty for electric operating equipment. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Sectional Doors:
1. Amarr; Amarr 2042 Polyurethane Insulated Steel Door: www.amarr.com/#sle.
2. C.H.I. Overhead Doors: www.chiohd.com/#sle.
3. Overhead Door Corporation: www.overheaddoor.com/#sle.
4. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 PERFORMANCE REQUIREMENTS

A. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.

B. Air Leakage Rate: Less than 0.40 cfm/sq ft when tested in accordance with ASTM E283/E283M at test pressure difference of 1.57 psf.

C. Thermal Transmittance: U-factor of 0.31 Btu/hr sq ft degrees F, maximum, in accordance with DASMA 102.

2.3 STEEL DOORS

A. Steel Doors: Flush steel, insulated; standard lift and high lift operating styles with track and hardware; complying with DASMA 102, Commercial application.
1. Door Nominal Thickness: 2 inches thick.
2. Exterior Finish:
a. Factory finished with acrylic baked enamel; color as selected by Architect.

3. Interior Finish:
   a. Factory finished with powder coated finish; color as selected from manufacturer's standard line.
4. Glazed Lites: Three glazed lights per panel, one row; set in place with security glazing stops.
   a. Glazing: Polycarbonate; insulated glass units; clear; 1/8 inch nominal overall thickness.
5. Electric Operation: Electric control station.

2.4 COMPONENTS

A. Track: Rolled galvanized steel, 11 gage thick; 3 inch wide, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick, min. Provide type of track recommended by manufacturer to suit clearances available. Primarily standard lift in bus storage bays and high lift in maintenance bays.

B. Hinge and Roller Assemblies: Heavy duty hinges and graduated roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.

C. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.

D. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with heavy duty EPDM resilient weatherstripping, placed in moderate contact with door panels. Color to match door.

E. Head Weatherstripping: EPDM rubber seal, one piece full length.

F. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

G. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle.

H. Lock Cylinders: Master keyed to building keying system.

2.5 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating, plain surface.

B. Float Glass: Provide float glass glazing, unless noted otherwise.

C. Insulation: Foamed in place polyurethane, bonded to facing.
   1. R value of 17.40.
   2. Same thickness as core framing members.

D. Metal Primer Paint: Zinc molybdate type.

2.6 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
   1. Provide interlock switches on motor operated units.

B. Electric Operators:
   1. Mounting: Center mounted on cross head shaft.
   2. Motor Enclosure:
      a. Exterior Doors: NEMA MG 00001, Type 4; open drip proof.
   3. Motor Rating: 1/3 hp; continuous duty.
   4. Motor Voltage: 120 volts, single phase, 60 Hz.
   5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
   6. Controller Enclosure: NEMA EN 10250, Type 1.
   7. Opening Speed: 12 inches per second.
   8. Brake: Adjustable friction clutch type, activated by motor controller.

9. Manual override in case of power failure.
10. See Section 26 05 83 for electrical connections.

C. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
   1. 24 volt circuit.
   2. Surface mounted, at interior door jamb.
   3. At Bus Storage garage doors, provide one exterior key station with surface mounted momentary contact (open-close) and spring return to center. Provide Lock cylinders master keyed to school's system.
   4. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
      a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.

D. Electrical Sensing Edge: Provide four-wire system that indicates when the sensing edge has failed or has contacted an obstruction. Sensing edge is to consist of metal foil contact strips mounted to opposing surfaces on a hollow compressible foam rubber material enclosed in vinyl coated moisture barrier extending full width of door.
   1. Provide all wiring required for electrical connection of electrical sensing edge from door to outlet box. Electrical contractor will provide outlet box and wiring from disconnect switch to outlet box and shall make connections. Coordinate requirements with electrical contractor.
   2. Provide strain relief electric cable at connection door.

E. Conduit, wiring and connection from control stations to motor and electric hook-up to motor from disconnect switch, is to be by electrical contractor. Coordinate requirements and hook-up with the electrical contractor.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits prior to starting installation.

B. Verify that electric power is available and of the correct characteristics.

3.2 PREPARATION

A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

B. Apply primer to wood frame.

3.3 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

F. Install perimeter trim, weatherstripping, and weatherstripping.

3.4 TOLERANCES

A. Maximum Variation from Plumb: 1/16 inch.

B. Maximum Variation from Level: 1/16 inch.

C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.

D. Maintain dimensional tolerances and alignment with adjacent work.

3.5 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weatherstripping.

B. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.6 CLEANING

A. Clean doors and frames and glazing.

B. Remove temporary labels and visible markings.

3.7 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

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SECTION 08 54 13
FIBERGLASS WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Factory fabricated fiberglass windows with operating sash.

B. Glazed by factory or on-site.

C. Operating hardware.

1.2 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealing joints between frames and adjacent construction.

B. Section 08 80 00 - Glazing.

1.3 REFERENCE STANDARDS

A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights; 2022, with Errata (2023).

B. AAMA 502 - Voluntary Specification for Field Testing of Newly Installed Fenestration Products; 2021.

C. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

D. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

E. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights; 2023.

F. ASTM E2353 - Standard Test Methods for Performance of Glazing in Permanent Railing Systems, Guards, and Balustrades; 2021.

1.4 SUBMITTALS

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

B. Product Data: Provide component dimensions, anchors, fasteners, glass, and internal drainage details.

C. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work, installation requirements.

D. Manufacturer's Certificate: Certify that products of this section meet or exceed specified requirements.

E. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:
   1. Evidence of AAMA Certification.
   2. Evidence of WDMA Certification.
   3. Evidence of CSA Certification.
   4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

F. Manufacturer's Qualification Statement.

G. Executed warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with minimum 5 years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified, with minimum 5 years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.7 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

B. Maintain this minimum temperature during and after installation of sealants.

1.8 WARRANTY

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

B. Manufacturer Warranty: Provide 10-year manufacturer warranty covering finish, including degradation or failure due to chemical contact. Complete forms in Owner's name and register with manufacturer.

C. Correct defective Work within a ten year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Fiberglass Windows:
1. Alpen High Performance Products; Zenith Series Windows: www.thinkalpen.com/#sle.
2. Cascadia Windows & Doors; CASCADIA UNIVERSAL SERIES Windows: www.cascadiawindows.com/#sle.
3. Marvin; Elevate Windows: www.marvin.com/#sle.
4. Pella Corporation; Pella Impervia Windows: www.pellacommercial.com/#sle.
5. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 WINDOW UNITS

A. Fiberglass Windows: Hollow, tubular, multilayer-fiber-reinforced pultruded material; factory fabricated; related flashings, anchorage and attachment devices, comply with ENERGY STAR requirements.
1. Configuration: As indicated on drawings.
2. Product Type: C - Casement window in accordance with AAMA/WDMA/CSA 101/I.S.2/A440.
3. Interior Color: As selected by Architect from manufacturer's full line of colors.
4. Exterior Color: As selected by Architect from manufacturer's full line of colors.
5. Movement: Accommodate movement between window and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.

7. Thermal Movement: Design to accommodate thermal movement caused by 100 degrees F temperature change without buckling stress on glass, joint seal failure, damaging loads on structural elements, damaging loads on fasteners, reduction in performance or other detrimental effects.

2.3 PERFORMANCE REQUIREMENTS

A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:
   1. Performance Class (PC): R.

B. Fenestration Assembly Thermal Transmittance (U-value): Comply with ASHRAE Std 90.1 I-P for building envelope requirements for applicable climate zone.

2.4 COMPONENTS

A. Frames: per MFR.-inch wide by per MFR.-inch deep profile; glass stops of screw fastened type.

B. Insect Screen Frame: Rolled aluminum frame of rectangular sections; fit with adjustable hardware; nominal size similar to operable glazed unit.

C. Fasteners: Stainless steel.

2.5 GLASS AND GLAZING MATERIALS

A. Glass and Glazing Materials: See Section 08 80 00 for Types described below:

2.6 HARDWARE

A. Casement and Awning Sash: Zinc die-cast steel worm-gear operator with Painted finish.
   1. Operator Linkage, Hinge Slide, and Hinge Arms: 300 series stainless steel.
   2. Casement and Awning Sash Lock: Folding arm crank.
      a. Comply with ADA Standards for operating hardware.
   3. Comply with ASTM E2353 for fall protection.

2.7 FABRICATION

A. Fabricate framing, mullions and sash members with fusion welded corners and joints, in a rigid jig. Supplement frame sections with internal reinforcement where required for structural rigidity.

B. Form sills and stools in one piece. Slope sills for wash.

C. Arrange fasteners to be concealed from view.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify wall openings and adjoining water-resistive barrier seal materials are ready to receive work of this section.

3.2 INSTALLATION

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

B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

3.3 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.

B. Repair or replace fenestration components that have failed designated field testing, and retest to verify performance complies with specified requirements.

3.4 CLEANING

A. Remove protective material from pre-finished surfaces.

B. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

C. Remove excess glazing sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

END OF SECTION

SECTION 08 71 00
DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"

6. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

3. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.

2) Quantity, type, style, function, size, and finish of each hardware item.
3) Name and manufacturer of each item.
4) Fastenings and other pertinent information.
5) Location of each hardware set cross-referenced to indications on Drawings.
6) Explanation of all abbreviations, symbols, and codes contained in schedule.
7) Mounting locations for hardware.
8) Door and frame sizes and materials.
9) Degree of door swing and handing.
10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

4. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware

a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.
      5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) Schlage ALX Series: 10 years
      2) Closers
         a) LCN 4050 Series: 25 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

B. Approval of products from manufacturers indicated in ''Acceptable Manufacturers'' is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. Hager BB1191/1279 series
   b. McKinney TB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Select
   b. Roton

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.

6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 CYLINDRICAL LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage ALX series

2. Acceptable Manufacturers and Products:
   a. Best 7KC series
   b. Sargent 7-Line

B. Requirements

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 2, and UL Listed for 3-hour fire doors with a minimum cycle life of 1 million.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide ¾" latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide a minimum of 5 points of lever engagement between the cassette spindle and lever shank to prevent lever sag.
7. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
8. Plug-n-Play – Provide modular lockset allowing lock functions to be created for 7 typical functions by inserting/installing parts into the exterior of a fully assembled chassis
9. Reconfigurable Chassis - Provide modular lockset that allows the function to be reconfigured by removing external components from the chassis
10. Lever Trim: Solid cast levers and wrought roses on both sides.
    a. Lever Design: RHO.

2.06 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage Everest 29

2. Acceptable Manufacturers and Products:
   a. Best Preferred Patented
   b. Sargent XC

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Restricted: cylinder with interchangeable cores with restricted, patented keyway.

3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.07 KEYING

A. Scheduled System:

1. New factory registered system:
   a. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Construction Keying:
   a. Replaceable Construction Cores.
      1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
         a) 3 construction control keys
         b) 12 construction change (day) keys.
      2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
      1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
      2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
   d. Identification:
      1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
      2) Identification stamping provisions must be approved by the Architect and Owner.
      3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
      4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.

5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.

e. Quantity: Furnish in the following quantities.
1) Permanent Control Keys: 3.
2) Master Keys: 6.
3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
4) Key Blanks: Quantity as determined in the keying meeting.

2.08 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.09 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.10 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Scheduled Manufacturer:

1. Zero International

B. Acceptable Manufacturers:

1. National Guard
2. Reese

C. Seals and Gasketing: Provide continuous gasketing on exterior openings, to the head and jambs, forming a continuous seal between the door and the frame. Provide smoke, light, or sound gasketing on interior doors where indicated.

1. Provide self-tapping fasteners for aluminum extruded gasketing being applied to hollow metal frames.
   a. Provide non-corrosive fasteners for all exterior applications.
   b. Provide security fasteners where indicated.

2. Provide neoprene, EPDM, silicone, or nylon brush inserts as specified in hardware sets. Provide non brush inserts of solid or sponge cell, as specified in hardware sets. Vinyl inserts are not allowed except where specified in hardware sets.

D. Smoke Labeled Gasketing: At all smoke labeled openings, provide smoke listed perimeter gasketing assemblies complying with NFPA 105 listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for smoke control ratings indicated based on testing according to UL 1784.

E. Fire Listed Gasketing: Assemblies complying with NFPA 80 that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction for fire ratings indicated based on testing according to UL-10C.

1. Where frame-applied intumescent seals are required by the manufacturer, provide gaskets that comply with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies and UBC 7-2, Fire Tests of Door Assemblies.

F. Sound-Rated Gasketing: Provide acoustic gasketing to meet Sound Transmission Class (STC) rating required.

G. Meeting-Stile Gasketing: Provide meeting-stile gasketing that fastens to the meeting stiles forming a continuous seal when doors are closed.

H. Door Sweeps or Shoes: Apply to the bottom of the door to close the gap between the door bottom and finished floor or saddle threshold.

1. Provide solid neoprene, EPDM, silicone, or nylon brush type of seal as specified in hardware sets. Vinyl inserts are not allowed except where specified in hardware sets.

I. Automatic Door Bottoms:

1. Provide closed cell sponge, bulb neoprene. or EPDM type of seal as specified in hardware sets.
2. Door bottom to be mortised, semi mortised, or surface mount as with a minimum thickness as specified in hardware sets.

J. Rain Drips:

1. Provide overhead rain drips for out-swinging hollow metal doors that are not covered against 45 degree blowing rain. Aluminum extrusion to be a minimum of .088 inches thick and extend 2.50 inches from the face of the frame, in anodized finish to match door.
2. Door sweeps or shoes with integral rain drip must meet ADA requirements

K. Thresholds: Provide threshold units not less than 4 inches wide, formed to accommodate change in floor elevation where indicated, and fabricated to accommodate door hardware and fit door frames.

1. Threshold extrusion to be a minimum thickness as specified in hardware sets.

2.11 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
2. Protection Plates: BHMA 630 (US32D)
3. Door Closers: Powder Coat to Match
4. Wall Stops: BHMA 630 (US32D)
5. Weatherstripping: Clear Anodized Aluminum
6. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.

J. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

K. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

L. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

O. Thresholds:

1. Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
2. Aluminum thresholds to be cut-in, and scribed around mullions, frame members, and stops. Do not butt to thresholds. Provide a continuous surface across full width of opening from jamb to jamb.
3. Where aluminum panic-type (rabbeted) thresholds with neoprene inserts are specified, undercut doors as required to properly mate with seal in threshold.

P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

Q. Perimeter Gasketing:

1. Apply to head and jamb, forming seal between door and frame.
2. Install gasketing in a manner eliminating need to cut any seal to install surface mounted hardware. Install compatible mounting bracket for surface mounted hardware unless minimum 1/4 inch thick solid aluminum seals are provided for mounting of surface applied hardware.

R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

Hardware Group No. 01

1	EA		HARDWARE BY DOOR MANUFACTURER		

Hardware Group No. 02

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50T RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 03

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80T RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 04

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ALX40 RHO	626	SCH
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 05

1	EA	CONT. HINGE	112HD	628	IVE
1	EA	STOREROOM LOCK	ALX80T RHO	626	SCH
1	EA	CLASSROOM DEAD LOCK	L463T	626	SCH
2	EA	FSIC CORE	23-030	626	SCH
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A	A	ZER

END OF SECTION

SECTION 08 80 00
GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Insulating glass units.

B. Glazing units.

C. Glazing compounds.

1.2 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.

B. Section 08 11 13 - Hollow Metal Doors and Frames: Glazed door lites and borrowed lights in non-rated frames.

C. Section 08 16 13 - Fiberglass Doors: Glazed lites in non-rated doors.

D. Section 08 36 13 - Sectional Doors: Glazed lites in doors.

E. Section 08 54 13 - Fiberglass Windows: Glazing provided by window manufacturer.

1.3 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015 (Reaffirmed 2020).

C. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

D. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019).

E. ASTM C1036 - Standard Specification for Flat Glass; 2025.

F. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2025.

G. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2024, with Editorial Revision (2025).

H. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2024.

I. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2019.

J. ASTM F1233 - Standard Test Method for Security Glazing Materials And Systems; 2021.

K. GANA (GM) - GANA Glazing Manual; 2022.

L. GANA (SM) - GANA Sealant Manual; 2008.

M. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

N. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; 1990 (Reaffirmed 2016).

O. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.

P. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2023.

Q. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2026.

R. UL 972 - Standard for Burglary Resisting Glazing Material; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data on Insulating Glass Unit and Glazing Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

D. Samples: Submit two samples 10 by 10 inch in size of glass units, showing coloration and design.

E. Certificate: Certify that sealed insulated glazing units meet or exceed specified requirements.
1. Submit NFRC 100- CMA Bid Report for the project showing compliance with the project thermal requirements at time of initial submission. Bid report shall be based on NFRC test sizes utilizing project specific glazing.

F. Installer's Certificate: Certify that glass furnished without identification label is installed in accordance with Construction documents and applicable code.

G. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM), GANA (SM), GANA (LGRM), and IGMA TM-3000 for glazing installation methods.

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

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

1.6 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F.

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.7 WARRANTY

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

B. Insulating Glass Units: Provide a ten (10) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

C. Laminated Glass: Provide a ten (10) year manufacturer warranty to include coverage for delamination, including replacement of failed units.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Laminated Glass Manufacturers:
1. Trulite Glass & Aluminum Solutions, LLC: www.trulite.com/#sle.
2. Viracon, Architectural Glass segment of Apogee Enterprises, Inc: www.viracon.com.
3. Oldcastle Building Envelope: www.obe.com.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Security Glass Manufacturers:
1. Armoured One; www.armouredone.com.
2. Global Security Glazing; www.security-glazing.com.
3. School Guard Glass; www.schoolguardglass.com.
4. Substitutions: Refer to Section 01 60 00 - Product Requirements.

2.2 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
1. Design Pressure: In accordance with ASCE 7.
a. Positive Design Pressure: 20 psf.
b. Negative Design Pressure: 20 psf.
2. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
3. Seismic Loads: Design and size glazing components to withstand seismic loads and sway displacement in accordance with the requirements of ASCE 7
4. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
5. Glass thicknesses listed are minimum.

B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
1. In conjunction with weather barrier related materials described in other sections, as follows:
a. Water-Resistive Barriers: See Section 07 25 00.
2. To utilize inner pane of multiple pane insulating glass units for continuity of vapor retarder and/or air barrier seal.
3. To maintain a continuous vapor retarder and/or air barrier throughout glazed assembly from glass pane to heel bead of glazing sealant.

C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
3. Solar Optical Properties: Comply with NFRC 300 test method.

2.3 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
1. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.

2. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
3. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.
4. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality - Q3, with color and performance characteristics as indicated.
5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

B. Laminated Glass: Heat-Strengthened float glass laminated in accordance with ASTM C1172.
1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category I impact test requirements.

C. Laminated Glass which is also specified as Security Glass shall comply with UL 972 and ASTM F1233, Class 1.3.
1. Polyvinyl Butyral (PVB) Interlayer: 0.030 inch thick, minimum, or as required to meet specified standards.

2.4 INSULATING GLASS UNITS

A. Insulating Glass Units: Types as indicated.
1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
2. Metal-Edge Spacers: Aluminum, bent and soldered corners.
3. Spacer Color: Black.
4. Edge Seal:
   a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant as secondary seal applied around perimeter.
   b. Color: Black.
5. Purge interpane space with dry air, hermetically sealed.

B. Type IG-B - Insulating Glass Units: Safety glazing.
1. Applications:
   a. Glazed lites in exterior doors, unless noted otherwise.
2. Space between lites filled with argon.
3. Glass Type: Same as Type IG-A except use fully tempered float glass for both outboard and inboard lites.
4. Tint: Clear.
5. Total Thickness: 1 inch.
6. Metal edge spacer.
7. Thermal Transmittance (U-Value), Winter - Center of Glass: 0.23, nominal.
8. Visible Light Transmittance (VLT): 59 percent, nominal.
9. Solar Heat Gain Coefficient (SHGC): 0.27, nominal.
10. Glazing Method: Dry glazing method, gasket glazing.

C. Type IG-B - - Insulating Glass Units: Security glazing; ASTM F1233, Class 1.3; UL 972.
1. Applications:
   a. Glazed lites in exterior doors and interior vestibule doors.
   b. Glazed sidelights and panels next to exterior doors and interior vestibule doors.
2. Space between lites filled with argon.
3. Outboard Lite: Fully Tempered Safety Glass, 1/4 inch thick,, minimum.
   a. Tint: Clear.
   b. Coating: Low-E (passive type), on #2 surface.
4. Laminated Inboard Lite: Glass Clad Polycarbonate
   a. Glass: Inner and Outer panes shall be Fully tempered float glass.
   b. Interlayer: Polyvinyl butyral (PVB); .030" minimum, or thickness as required
   c. Overall Nominal Thickness: 3/8 inch thick, minimum.
5. Total Thickness: 1 inch.
6. Thermal Transmittance (U-Value), Winter - Center of Glass: 0.23, nominal.

7. Visible Light Transmittance (VLT): 59 percent, nominal.
8. Solar Heat Gain Coefficient (SHGC): 0.27 percent, nominal.
9. Glazing Method: Dry glazing method, tape and gasket spline.

2.5 GLAZING UNITS

A. Type G-3 - Monolithic Safety Glazing: Non-fire-rated.
   1. Applications:
      a. Glazed lites in doors, except fire doors.
   2. Glass Type: Fully tempered safety glass as specified.
   3. Tint: Clear.
   4. Thickness: 1/4 inch, nominal.

2.6 ACCESSORIES

A. Setting Blocks: Neoprene, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.

C. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.

D. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color to match frame.

PART 3 EXECUTION

3.1 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

C. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.3 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.

C. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.

D. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

E. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, and paint.

3.4 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

A. Application - Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.5 FIELD QUALITY CONTROL

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

B. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.

C. Monitor and report installation procedures and unacceptable conditions.

3.6 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.7 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

SECTION 13 34 18
POST FRAME BUILDING SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pre-Engineered factory and field fabricated timber column structure.

B. Prefinished metal roofing and siding panels.

C. Prefinished metal trim items.

D. Prefinished soffits.

E. Accessories.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete.

1.3 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete; 2019 (Reapproved 2022).

B. AFPA (NDS) - National Design Specification for Wood Construction; 2018.

C. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

D. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2026.

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

F. ASTM A706/A706M - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement; 2026.

G. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2025a.

H. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2024.

I. TPI BCSI 1 - Building Component Safety Information Booklet: The Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses; 2018.

J. TPI DSB-89 - Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses; 1989.

K. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates; 2025.

L. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films; 2023.

M. AWPA U1 - Use Category System: User Specification for Treated Wood; 2025.

N. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. SPIB (GR) - Standard Grading Rules; 2021.

P. TPI 1 - National Design Standard for Metal-Plate-Connected Wood Truss Construction; 2014.

1.4 ADMINISTRATIVE REQUIREMENTS

A. See Section 01 30 00 - Administrative Requirements: Pre-installation Meeting.

B. Preinstallation Meeting: Convene a minimum of one week prior to starting the work of this section.

1.5 PERFORMANCE REQUIREMENTS

A. The pre-engineered building manufacturer's professional engineer shall design the timber column structure to satisfy the following codes:
   1. 2025 Building Code of New York State; ICC (IBC).
   2. "Minimum Design Loads for Buildings and Other Structures" ASCE 7, American Society of Civil Engineers.

B. For additional information on design loading see structural general notes drawing.

C. Roof and wall system shall be able to withstand the imposed loads with maximum allowable deflection of L/240.

D. Assembly shall permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects.

E. Size and fabrication of wall and roof systems to be free of distortion or defects that would be detrimental to appearance or performance.

1.6 SUBMITTALS

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

B. Shop Drawings: Provide detailed shop and erection drawings indicating the building dimensions, type, size and locations of structural members, connections, attachments, openings, loadings, and base reactions. Indicate wall and roof system dimensions, panel layout, general construction details, anchorages and method of anchorage.
   1. Building design shall be performed by a professional engineer licensed to practice in the State of New York. Submittals shall bear their seal and signature.
   2. Provide design loading calculations signed and sealed by a professional engineer licensed to practice in the State of New York.

C. Product Data: Manufacturer’s technical data sheets on each product to be used, including:
   1. Component dimensions
   2. Material designations showing mill test strength data and applicable ASTM certifications.
   3. Storage and handling requirements and recommendations
   4. Preparation instructions, installation methods, and recommendations

D. Manufacturer's Qualification Statement.

E. Installer's Qualification Statement.

F. Warranty: Submit sample copy of warranty to be issued at completion of project.

G. Project Record Documents: Provide according to 01 78 00 - Closeout Submittals.

1.7 QUALITY ASSURANCE

A. Design structural components, develop shop drawings, and perform site and shop work under direct supervision of a Professional Engineer experienced in design of this work and licensed in the State of New York.

B. Manufacturer shall have a minimum of ten years documented experience in the manufacture of this type of structure.

C. Installer Qualifications: Company specializing in performing the work of this section with a minimum of five years experience on projects of similar size and scope, and approved by the manufacturer.

D. Contractor shall be responsible for all materials, whether furnished by himself or a subcontractor, and proper storage of the same.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver and store prefabricated components (trusses, columns, steel panels and other items) so that they will not be damaged or deformed.

B. Stack materials on platforms, pallets or other structures covered with tarpaulins or other suitable weather-tight ventilated covering. Handle and store structural parts in a manner that will avoid deforming members or subjecting parts to excessive stresses.

C. Store roofing and siding panels to allow water to drain freely.

D. Panels shall not be stored in contact with other materials that may cause staining or discoloration.

1.9 WARRANTY

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

B. The building manufacturer shall supply a warranty to the Owner which shall provide that the manufacturer will:
   1. For a period of fifty (50) years:
      a. Absorb repair or replacement costs, including materials and labor, if any preservative treated lumber fails due to decay or insect attack.
      b. Repair, or at its discretion, replace free of charge the building framework, including roofing and/or siding panels, if directly damaged by snow loads.
   2. For a period of thirty-five (35) years:
      a. Repaint any roofing or siding panel on which, under conditions of normal weather, the paint has separated from the panels due to flaking or peeling.
      b. Repaint any roofing or siding panels on which, under conditions of normal weathering, chalking greater than a rating of 8 (ASTM D4214) or color change greater than five (5) units (ASTM D2244) has occurred.
   3. For a period of ten (10) years:
      a. Repaint any roofing or siding panel on which, under conditions of normal weather, exhibit corrosion resulting in red rust greater than 1/2 inch from any sheared edge which is clearly visible in casual observation.
   4. For a period of five (5) years:
      a. Repair, or at its discretion, replace free of charge the building framework, including roofing and/or siding panels, if directly damaged by wind loads, unless damage is caused by flying or falling objects.
      b. Repair any roof leaks due to defects in materials or workmanship.
   5. For a period of one (1) year:
      a. Repair other building parts that prove to be defective in materials or workmanship.

PART 2 PRODUCTS

2.1 BASIS OF DESIGN MANUFACTURER – BUILDING SYSTEM

A. Morton Buildings, Inc., Morton, Illinois: www.mortonbuildings.com.

B. Other manufacturer offering similar systems as approved by Architect.

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

2.2 MATERIALS- GENERAL

A. Wood members shall be designed per AFPA (NDS)
   1. Moisture Content: Between 7 minimum and 19 percent maximum.
   2. Wood sections: surfaced lumber (S4S) and compliant with governing agency's visual and structural grade requirements.

B. Wood Preservative treated lumber shall conform to AWPA U1 guidelines.
   1. Preservative Chemicals: Do not use inorganic boron (SBX) for sill plates. Preservative mixture shall not contain arsenic or chromium.
   2. For exposed items indicated to receive stained or natural finish, use chemicals formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
   3. Kiln dry after treatment to maximum moisture content of 19 percent.
   4. Marking: Mark each piece with stamp of an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

2.3 MATERIALS – FRAMING

A. Precast concrete piers (below grade)
   1. Precast Structural Concrete Units: Comply with ACI 318 and applicable codes.
      a. Precast Manufacturer shall design components to withstand dead loads and design loads in the configuration indicated on drawings and in Performance Requirements.
      b. Pier depth shall be finished such that it does not protrude beyond the upper wood column
      c. Precast pier shall have reinforcement dowels to extend into poured footing. See drawings for footing details and thickness.
   2. Cement: Gray Portland type, conforming to ASTM C150, Type II, minimum of 10,000 psi.
   3. Aggregate, Sand, Water, Fiber Reinforcement, Admixtures: Determined by precast fabricator as appropriate to design requirements and ACI318.
      a. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
   4. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
      a. Type: Deformed billet-steel bars.
   5. Weldable Reinforcing Steel: ASTM A706/A706M, Grade 60 (60,000 psi).
      a. Type: Deformed billet-steel bars.
   6. Air Entrainment Admixture: ASTM C260/C260M.
      a. All piers to receive 5%± 1.5% air entrainment.
   7. Manufacturers:
      a. Morton Buildings Inc.; MFS system: www.mortonbuildings.com.
      b. Perma-Column LLC.; Perma-column: www.permacolumn.com.
      c. Substitutions: See Section 01 60 00 - Product Requirements

B. Wood Columns
   1. Wood column (above grade)
      a. Factory fabricated wood laminated column with a minimum of 3-plies
         1) Species and grade: Southern pine SPIB (GR) Grade No. 1 or better
      b. Wood column shall not be placed in contact with earth.
      c. Wood column shall receive preservative treatment UC3b per AWPA U1.

d. Attach upper column to lower column with number and size of pneumatically driven fasteners as indicated on erection drawings.
e. Provide factory or field installed blocking on outside face of column between nailers.

C. Wood Trusses
1. Wood Trusses: Designed and fabricated in accordance with TPI 1 and TPI DSB-89 to achieve structural requirements indicated.
a. Structural Design loads: See Performance Requirements and structural drawings for structural loading criteria.
b. Roof Deflection: 1/240, maximum.
2. Steel Connectors: Hot-dipped galvanized steel sheet, ASTM A653/A653M Structural Steel (SS) Grade 33/230, with G90/Z275 coating; die stamped with integral teeth.
3. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

D. Secondary Framing
1. All framing within 1 foot of the ground shall receive preservative treatment UC4a per AWPA U1.
2. All wall girts, purlins, truss ties, wind bracing, overhang framing, and framing around openings shall be southern pine SPIB (GR) Grade No. 2 or better.
a. Size, spacing, and attachment shall be determined by pre-engineered building manufacturer and clearly shown on shop drawings.
b. Nominal width of secondary framing: 2 inch

E. Accessories
1. Wood Blocking, Bridging, Plates, and Miscellaneous Framing: Softwood lumber, Spruce/Pine/Fir, construction grade or better.
2. Fasteners: Hot-dip galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.

2.4 MATERIALS – WALLS AND ROOF

A. Wall Panels and Trim (Fluoroflex 1000)
1. Panel and trim substrate shall be 0.019 inch minimum thickness commercial steel sheet with G90 (zinc) coating per ASTM A653/A653M or AZ55 (aluminum/zinc) coating per ASTM A792/A792M.
2. The weather side of the panel shall receive a nominal two tenths mil polyurethane primer and a nominal eight tenths mil topcoat of 70% polyvinylidene difluoride (PVDF) resin to achieve a total nominal paint film thickness of one mil.
3. The non-weather side paint system shall consist of a two coat finish with a total nominal thickness of one-half mil.
4. Metal trim items shall be die formed.
5. Color: As selected by Architect from manufacturer’s standard color chart.
a. Allow for multiple color combinations.
6. Fasteners: EPDM washered, painted, center drive stainless steel screws for ribbed steel panels.

B. Roof Panels and Trim (Fluoroflex 1000)
1. Panel and trim substrate shall be 0.019 inch minimum thickness commercial steel sheet with G90 (zinc) coating per ASTM A653/A653M or AZ55 (aluminum/zinc) coating per ASTM A792/A792M.
2. The weather side of the panel shall receive a nominal two tenths mil polyurethane primer and a nominal eight tenths mil topcoat of 70% polyvinylidene difluoride (PVDF) resin to achieve a total nominal paint film thickness of one mil.
3. The non-weather side paint system shall consist of a two coat finish with a total nominal thickness of one-half mil.
4. Metal trim items shall be die formed.
5. Color: As selected by Architect from manufacturer’s standard color chart.
a. Allow for multiple color combinations.
6. Fasteners: EPDM washered, painted, center drive stainless steel screws for ribbed steel panels.
7. Roof panels mentioned above refer to metal ceiling as shown on drawings.

2.5 MATERIALS - COMPONENTS

A. DOORS
1. Walkdoors
a. See Section 08 16 13 - Fiberglass Doors
2. Overhead Doors
a. See Section 08 36 13 - Sectional Doors

B. ACCESSORIES
1. Closure strips: Closed cell foam.
2. Sealant: 100% neutral curing silicone sealant, and paintable sealant where required.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify site conditions under provisions of Section 01 40 00 - Quality Requirements.

B. Field Measurements: Verify all dimensions and existing field conditions before commencing any work of this section.
1. Notify Architect of any discrepancies found.

3.2 PROJECT CONDITIONS

A. See Section 01 30 00 - Administrative Requirements: Coordination and Project Conditions.

B. Fit carpentry work to other work. Scribe and cope as required for accurate fitting.

C. Correlate location of furring, nailers, blocking and supports to allow for attachment of other work.

3.3 ERECTION – GENERAL

A. Erect framing in accordance with manufacturer’s established construction procedures and in compliance with all current codes and regulations.

B. Make all components and building plumb, square, straight and true to lines, according to industry standards.

C. Provide adequate temporary bracing to assure structure remains plumb and square until permanent bracing is installed.

D. Field alterations of structural members will not be permitted.

3.4 ERECTION – FRAMING

A. Pre-cast Concrete Pier
1. Auger a hole to depth and diameter as detailed in the drawings.
2. Accurately position lower concrete column in the hole.
3. Place ready-mix concrete in hole to footing size and thickness indicated on plans.
4. Backfill with dry soil, compacted in 8 inch lifts.

B. Wood Column
1. Set upper column to positive interlock with lower column.
2. Install manufacturer’s recommend quantity and size pneumatically driven fasteners.
3. Install 2 inch x 6 inch overhang nailer at the top.

C. Trusses
1. Install trusses in accordance with manufacturer's instructions and TPI DSB-89 and TPI BCSI 1.
a. Maintain a copy of each TPI document on site until installation is complete.

2. Set members level and plumb, in correct position.
3. Connect truss to structure per the Building Manufacture's recommendations.
4. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in true alignment until completion of erection and installation of permanent bracing.
5. Do not field cut or alter structural members without approval of Architect.
6. Install permanent bridging and bracing.
7. Install supports to frame openings required.
8. Frame openings between trusses with lumber.

D. Baseboards, Wall Girts, Purlins, Wind Bracing, and Incidental Framing
1. Install nominal 2 inch framing at locations as detailed by manufacturers recommendations.

3.5 ERECTION – WALLS AND ROOF

A. Siding and wainscot panels
1. Install in accordance with manufacturer's instructions. Secure to structural framing aligned, level and plumb. Space fasteners as shown on Erection Drawings.
2. Install panels perpendicular to supports, aligned level and plumb to industry standards.
3. Field cut endwall panels to match roof slope.
4. Fasten panels to wall girts with screw fasteners.
5. Sidelap: minimum one full corrugation

B. Trim items
1. Install trim items at the base, wainscot transition, corners, top of steel siding, fascia, gables and ridge using appropriate fasteners.

C. Vent-A-Ridge
1. Install over ridge trim using screw fasteners.
2. Insure that a minimum of 2 inches clear throat opening is maintained.

D. Soffits
1. Install soffits to interlock with trim items at top of steel siding and at fascia.
2. Use solid soffit at end overhang.
3. Use a combination of solid and perforated soffits to provide balanced ventilation at side overhangs.

3.6 ERECTION - COMPONENTS

A. Install door frames and doors in accordance with manufacturer's instructions.

B. Rigidly support and secure snow guard components per manufacturer’s installation instructions.

3.7 TOLERANCES

A. Framing Members
1. 1/4 inch from level.
2. 1/8 inch from plumb.

B. Siding and roofing
1. 1/8 inch from true position.

END OF SECTION

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SECTION 22 05 53
IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Nameplates.

B. Tags.

C. Stencils.

D. Pipe markers.

E. Ceiling tacks.

1.2 REFERENCE STANDARDS

A. ASME A13.1 - Scheme for the Identification of Piping Systems; 2023.

1.3 SUBMITTALS

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

B. Schedules:
   1. Submit plumbing component identification schedule listing equipment, piping, and valves.
   2. Detail proposed component identification data in terms of of wording, symbols, letter size, and color coding to be applied to corresponding product.
   3. Valve Data Format: Include id-number, location, function, and model number.

C. Operation and Maintenance, O&M, Manual Data: Record actual locations of tagged valves, and provide laminated valve chart which includes valve tag numbers, location and function in chart form for placement into Operations and Maintenance Manual.

PART 2 PRODUCTS

2.1 PLUMBING COMPONENT IDENTIFICATION GUIDELINE

A. Pipe Markers: 3/4 inch diameter and higher.

2.2 NAMEPLATES

A. Description: Laminated piece with up to three lines of text.
   1. Letter Color: White.
   2. Letter Height: 1/4 inch.
   3. Background Color: Black.

2.3 TAGS

A. Flexible: Vinyl with engraved black letters on light contrasting background color with up to three lines of text. Minimum tag size 1-1/2 inch in diameter.

B. Valve Tag Chart: Typewritten letter sized list, plastic laminated. Typewritten letter size list to include applied tag function description, valve tag number and location.

2.4 STENCILS (CONCEALED PIPING)

A. Stencil Paint:
1. Provide materials that are compatible with one another and the substrate indicated under conditions of service and application.
2. Volatile Organic Compound (VOC) Content: Not exceeding 100g/l.
3. Background and Stencil Paint: Semi-gloss enamel, colors complying with ASME A13.1.

2.5 PIPE MARKERS (EXPOSED PIPING)

A. Comply with ASME A13.1.

B. Flexible Marker: Factory fabricated, semi-rigid, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid conveyed.

C. Flexible Tape Marker: Flexible, vinyl film tape with pressure-sensitive adhesive backing and printed markings.

D. Identification Scheme, ASME A13.1:
1. Primary: External Pipe Diameter, Uninsulated or Insulated.
2. Secondary: Color scheme per fluid service.
a. Water; Potable, Cooling, Boiler Feed, and Other: White text on green background.

2.6 CEILING TACKS

A. Description: Steel with 3/4 inch diameter color coded head.

B. Color code as follows:
1. Plumbing Valves: Green.

PART 3 EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive identification products.

B. Prepare surfaces for stencil painting, see Section 09 91 23.

3.2 INSTALLATION

A. Install flexible nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

B. Install tags in clear view and align with axis of piping

C. Identify water heaters, pumps, tanks, and water treatment devices with plastic nameplates. Identify in-line pumps and other small devices with tags.

D. Apply stencil painted identification in compliance with manufacturer's requirements. Identify unit with assigned id-number and area being served using pipe marking rules.

E. Install plastic pipe markers in accordance with manufacturer's instructions.
1. Identify service, flow direction, and pressure.
2. Install in clear view and align with axis of piping.
3. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.

F. Locate ceiling tacks to locate valves above lay-in panel ceilings. Locate in corner of panel closest to equipment.

G. Identify concealed piping, with stenciled painting. Identify exposed piping with plastic pipe markers. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

H. Identify valves in main and branch piping with tags.

END OF SECTION

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SECTION 22 07 19
PLUMBING PIPING INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Expanded polystyrene insulation.

B. Flexible elastomeric cellular insulation.

C. Glass fiber insulation.

D. Jacketing and accessories.

1.2 RELATED REQUIREMENTS

A. Section 22 10 05 - Plumbing Piping and Specialties: Placement of hangers and hanger inserts.

B. Section 22 05 53 - Identification for Plumbing Piping and Equipment.

1.3 REFERENCE STANDARDS

A. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 2019, with Editorial Revision (2023).

B. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement; 2007 (Reapproved 2024).

C. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement; 2007 (Reapproved 2024).

D. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

E. ASTM C533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation; 2017 (Reapproved 2023).

F. ASTM C534/C534M - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form; 2025.

G. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation; 2025.

H. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation; 2022.

I. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2023.

J. ASTM C591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation; 2022.

K. ASTM C610 - Standard Specification for Molded Expanded Perlite Block and Pipe Thermal Insulation; 2017 (Reapproved 2023).

L. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel; 2008 (Reapproved 2023).

M. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation; 2023.

N. ASTM D1056 - Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber; 2020.

O. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

P. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

Q. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum 5 years of experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

B. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.7 FIELD CONDITIONS

A. Maintain ambient conditions required by manufacturers of each product.

B. Maintain temperature before, during, and after installation for minimum of 24 hours.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84, UL 723, ASTM E84, or UL 723.

2.2 GLASS FIBER INSULATION

A. Manufacturers:
1. Armstrong

B. Insulation: ASTM C547 and ASTM C795; rigid, preformed pipe insulation, noncombustible.
1. K Value: ASTM C177, 0.24 at 75 degrees F.
2. Maximum Service Temperature: 850 degrees F.

3. Maximum moisture absorption: 0.1 percent by volume.

C. Vapor Retarder Jacket: ASTM C1136 Flexible, Low Permeance Vapor Retarders for Thermal Insulation, Type II. Facing: 1 inch galvanized steel hexagonal wire mesh stitched on one face of insulation.

D. Vapor Barrier Lap Adhesive: Compatible with insulation.

E. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.

2.3 EXPANDED POLYSTYRENE INSULATION

A. Manufacturers:
1. Armstrong.
2. Certainteed Company.
3. Manville Products
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Insulation: ASTM C578; rigid closed cell.
1. K Value: 0.23 at 75 degrees F.
2. Maximum Service Temperature: 165 degrees F.
3. Maximum Moisture Absorption: 0.2 percent by volume.
4. Maximum Water Vapor Permeance: 5.0 perm inch.

2.4 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

A. Manufacturers:
1. Armstrong
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Insulation: Preformed flexible elastomeric cellular rubber insulation complying with ASTM C534/C534M Grade 1; use molded tubular material wherever possible.
1. Minimum Service Temperature: Minus 40 degrees F.
2. Maximum Service Temperature: 220 degrees F.
3. Connection: Waterproof vapor barrier adhesive.

2.5 JACKETING AND ACCESSORIES

A. PVC Plastic Pipe Jacket.
1. Manufacturers:
a. Armstrong.
b. Owens Corning.
c. Knauf.
d. Substitutions: See Section 01 60 00 - Product Requirements.
2. Jacket: One piece molded type fitting covers and sheet material, off-white color.
a. Maximum Service Temperature: 450 degrees F.
b. Moisture Vapor Permeability: 0.002 perm inch, maximum, when tested in accordance with ASTM E96/E96M.
c. Thickness: 15 mil.
d. Connections: Brush on welding adhesive.
3. Covering Adhesive Mastic: Compatible with insulation.
4. Insulation covering cold water systems shall contain integral vapor retarder system for moisture removal and mold prevention.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that piping has been tested before applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with North American Insulation Manufacturers Association (NAIMA) National Insulation Standards.

C. Exposed Piping: Locate insulation and cover seams in least visible locations.

D. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections and expansion joints.

E. Glass fiber insulated pipes conveying fluids below ambient temperature:
1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure-sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.

F. For hot piping conveying fluids 140 degrees F or less, do not insulate flanges and unions at equipment, but bevel and seal ends of insulation.

G. For hot piping conveying fluids over 140 degrees F, insulate flanges and unions at equipment.

H. Glass fiber insulated pipes conveying fluids above ambient temperature:
1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure-sensitive adhesive. Secure with outward clinch expanding staples.
2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.

I. Inserts and Shields:
1. Application: Piping 1-1/2 inches diameter or larger.
2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
3. Insert Location: Between support shield and piping and under the finish jacket.
4. Insert Configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.
5. Insert Material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

J. Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of one hour or less. Provide intumescent firestopping when continuing insulation through assembly. Finish at supports, protrusions, and interruptions. Refer to Section 07 84 00 for penetrations of assemblies with fire resistance rating greater than one hour.

K. Pipe Exposed in Mechanical Equipment and Storage Rooms (less than 10 feet above finished floor): Finish with PVC jacket and fitting covers.

L. Pipe Exposed in Finished Spaces: Finish with PVC jacket and fitting covers.

M. Exterior Applications: Provide vapor barrier jacket. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor barrier cement. Cover with aluminum jacket with seams located on bottom side of horizontal piping.

N. Heat Traced Piping: Insulate fittings, joints, and valves with insulation of like material, thickness, and finish as adjoining pipe. Size large enough to enclose pipe and heat tracer. Cover with aluminum jacket with seams located on bottom side of horizontal piping.

O. Provide insulation to storm piping in its entirety from roof drain, entire length of horizontal storm piping run to main vertical drop.

3.3 SCHEDULES

A. Plumbing Systems:
   1. All sizes of Domestic Cold water, 1/2 inch to 1-1/4 inch Hot Water, 1/2 inch to 1-1/4 inch Hot Water Recirculation and 1/2 inch to 1-1/4 inch Tempered Water Piping:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1 inch.
      b. Cellular Glass Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1 inch.
      c. Expanded Polystyrene Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1 inch.
      d. Cellular Foam Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1 inch.
   2. 1-1/2 inch and Larger Domestic Hot Water, Hot Water Recirculation and Tempered Water Piping:
      a. Glass Fiber Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1-1/2 inch.
      b. Cellular Glass Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1-1/2 inch.
      c. Expanded Polystyrene Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1-1/2 inch.
      d. Cellular Foam Insulation:
         1) Pipe Size Range: As Noted.
         2) Thickness: 1-1/2 inch.
   3. Plumbing Vents Within 10 Feet of the Exterior:
      a. Fiber Glass Insulation with integral vapor retarder. All pipe sizes, 1 inch thick.
      b. Elastomeric Cellular Foam Insulation all pipe sizes, 1 inch thick.
      c. Cellular Glass Insulation. All pipe sizes, 1 inch thick.

B. Plumbing Systems:
   1. Piping Exposed to Freezing with Heat Tracing: All pipe sizes, 1 inch thick.

END OF SECTION

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SECTION 22 10 05
PLUMBING PIPING AND SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sanitary waste piping, buried within 5 feet of building.

B. Sanitary waste piping, above grade.

C. Domestic water piping, buried within 5 feet of building.

D. Domestic water piping, above grade.

E. Pipe, pipe fittings, valves, connections and specialties for:
   1. Domestic water systems.
   2. Gas systems.
   3. Pipe flanges, unions, and couplings.
   4. Pipe hangers and supports.
   5. Pipe sleeve-seal systems.
   6. Ball valves.
   7. Butterfly valves.

1.2 RELATED REQUIREMENTS

A. Section 22 05 53 - Identification for Plumbing Piping and Equipment.

B. Section 22 07 19 - Plumbing Piping Insulation.

C. Section 31 23 16 - Excavation.

D. Section 31 23 23 - Fill.

1.3 REFERENCE STANDARDS

A. ANSI Z21.22 - American National Standard for Relief Valves for Hot Water Supply Systems; 2015 (Reaffirmed 2025).

B. ANSI Z223.1 - National Fuel Gas Code; 2024.

C. ASME B16.3 - Malleable Iron Threaded Fittings: Classes 150 and 300; 2021.

D. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings; 2021.

E. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings; 2021.

F. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings: DWV; 2021.

G. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes; 2024.

H. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings—DWV; 2022.

I. ASME B31.9 - Building Services Piping; 2025.

J. ASME BPVC-IV - Boiler and Pressure Vessel Code, Section IV - Rules for Construction of Heating Boilers; 2025, with Errata.

K. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators; 2025, with Errata.

L. ASSE 1003 - Water Pressure Reducing Valves for Potable Water Distribution Systems; 2023.

M. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2024.

N. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings; 2025.

O. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service; 2025.

P. ASTM B32 - Standard Specification for Solder Metal; 2020.

Q. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes; 2025.

R. ASTM B68/B68M - Standard Specification for Seamless Copper Tube, Bright Annealed; 2025.

S. ASTM B75/B75M - Standard Specification for Seamless Copper Tube; 2026.

T. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2022.

U. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2020.

V. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV); 2026.

W. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings; 2026.

X. ASTM D2239 - Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter; 2025.

Y. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems; 2020 (Reapproved 2024).

Z. ASTM D2609 - Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe; 2024.

AA. ASTM D2665 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings; 2025.

BB. ASTM D2855 - Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets; 2020 (Reapproved 2024).

CC. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2024, with Editorial Revision (2025).

DD. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe; 2014 (Reapproved 2021).

EE. ASTM F679 - Standard Specification for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings; 2021.

FF. AWWA C105/A21.5 - Polyethylene Encasement for Ductile-Iron Pipe Systems; 2018.

GG. AWWA C111/A21.11 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings; 2023.

HH. AWWA C151/A21.51 - Ductile-Iron Pipe, Centrifugally Cast; 2023.

II. AWWA C651 - Disinfecting Water Mains; 2023.

JJ. AWWA C901 - Polyethylene (PE) Pressure Pipe, Tubing, and Fittings, 3/4 In. (19 mm) Through 3 In. (76 mm), for Water Service; 2025.

KK. CISPI 301 - Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications; 2021.

LL. CISPI 310 - Specification for Coupling for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications; 2020.

MM. ICC-ES AC01 - Acceptance Criteria for Expansion Anchors in Masonry Elements; 2018, with Editorial Revision (2020).

NN. ICC-ES AC106 - Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in Masonry; 2018, with Editorial Revision (2020).

OO. ICC-ES AC193 - Acceptance Criteria for Mechanical Anchors in Concrete Elements; 2017, with Editorial Revision (2020).

PP. ICC-ES AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements; 2023.

QQ. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; 2025.

RR. MSS SP-71 - Gray Iron Swing Check Valves, Flanged and Threaded Ends; 2018.

SS. MSS SP-78 - Gray Iron Plug Valves, Flanged and Threaded Ends; 2011.

TT. MSS SP-80 - Bronze Gate, Globe, Angle, and Check Valves; 2019.

UU. MSS SP-85 - Gray Iron Globe and Angle Valves, Flanged and Threaded Ends; 2011.

VV. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends; 2010, with Errata .

WW. NSF 61 - Drinking Water System Components - Health Effects; 2025, with Addendum

XX. NSF 372 - Drinking Water System Components - Lead Content; 2024.

1.4 SUBMITTALS

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

B. Product Data: Provide data on pipe materials, pipe fittings, valves, hangers, supports and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

C. Project Record Documents: Record actual locations of valves.

D. Hangers and Supports: Submit manufacturers catalog information including load capacity.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements for additional provisions.
   2. Valve Repacking Kits: One for each type and size of valve.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with applicable codes.

B. Perform Work in accordance with standards of the State of New York.

C. Valves: Manufacturer's name and pressure rating marked on valve body.

D. Welding Materials and Procedures: Comply with ASME BPVC-IX and applicable state labor regulations.

E. Welder Qualifications: Certified in accordance with ASME BPVC-IX.

F. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

1.6 REGULATORY REQUIREMENTS

A. Conform to applicable code for installation of backflow prevention devices.

B. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

1.8 FIELD CONDITIONS

A. Do not install underground piping when bedding is wet or frozen.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Potable Water Supply Systems: Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

B. Plenum-Installed Acid Waste Piping: Flame-spread index equal or below 25 and smoke-spread index equal or below 50 according to ASTM E84 or UL 723 tests.

2.2 SANITARY WASTE PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Cast Iron Pipe: ASTM A74 extra heavy weight.
1. Fittings: Cast iron.
2. Joints: Hub-and-spigot, CISPI HSN compression type with ASTM C564 neoprene gaskets or lead and oakum.

B. PVC Pipe: ASTM D2665 or ASTM D3034.
1. Fittings: PVC.
2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.3 SANITARY WASTE PIPING, ABOVE GRADE

A. Cast Iron Pipe: CISPI 301, hubless, service weight.
1. Fittings: Cast iron.
2. Joints: CISPI 310, neoprene gaskets and stainless steel clamp-and-shield assemblies.

B. Copper Tube: ASTM B306, DWV, Type L.
1. Fittings: ASME B16.29, wrought copper, or ASME B16.23, sovent.
2. Joints: Solder, lead free, ASTM B32, 95-5 tin-antimony, or tin and silver, with melting range 430 to 535 degrees F.

C. PVC Pipe - (Not For Use in Return Air Plenums or Exposed in Places of Assembly.): ASTM D2665.
1. Fittings: PVC.
2. Joints: Solvent welded, with ASTM D2564 solvent cement.

2.4 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Copper Pipe: ASTM B42, hard drawn, 2-1/2 inches and smaller.
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22 wrought copper and bronze.
   2. Joints: ASTM B32, alloy Sn95 solder.

B. Ductile Iron Pipe: AWWA C151/A21.51, 3 inches and larger.
   1. Fittings: AWWA C110, ductile iron, standard thickness. Cement Mortar lining in conformance with AWWA C-104.
   2. Joints: AWWA C111/A21.11, styrene butadiene rubber (SBR) or vulcanized SBR gasket with 3/4 inch diameter rods.
   3. Jackets: AWWA C105/A21.5 polyethylene jacket.

C. PEX Pipe: Polyethylene cross-linked for Potable water (non-oxygen barrier). Color coded: Blue for cold domestic water and Red for hot domestic water. Complies with ASTM F876, F877, F1807, F2159, 2023, CSA B137.5.
   1. Fittings: PEX designed for use with Potable water piping.

2.5 DOMESTIC WATER PIPING, ABOVE GRADE

A. Copper Tubing for pipe 2 1/2 inches and smaller: ASTM B 88 (ASTM B 88M), Type L (B), Drawn (H)
   1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
   2. Joints: ASTM B 32, alloy Sn95 solder. Lead free.

B. Copper Tubing for pipe 3 inches and larger: ASTM B88, Type L (B), hard drawn, rolled grooved ends
   1. Fittings: ASTM B584 bronze sand castings, grooved ends.
   2. Joints: Grooved mechanical couplings meeting ASTM F1476.
      a. Housing Clamps: ASTM A395/A395M and ASTM A536 ductile iron, enamel coated, compatible with copper tubing sizes, to engage and lock designed to permit some angular deflection, contraction, and expansion.
      b. Gasket: Elastomer composition for operating temperature range from -30 degrees F to 180 degrees F.
      c. Accessories: Stainless steel bolts, nuts, and washers.
   3. Mechanically pressed fitting are allowed for this application.

2.6 NATURAL GAS PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Steel Pipe: ASTM A53/A53M, Grade B, Type F, Schedule 40 black.
   1. Fittings: ASTM A234/A234M, wrought steel welding type.
   2. Jacket: AWWA C105/A21.5 polyethylene jacket or double layer, half-lapped 10 mil polyethylene tape.

2.7 NATURAL GAS PIPING, ABOVE GRADE

A. Steel Pipe: ASTM A53/A53M Schedule 40 black.
   1. Fittings: ASME B16.3, malleable iron, or ASTM A234/A234M, wrought steel welding type.
   2. Joints: NFPA 54, Threaded for pipe size 2-1/2" inch and smaller and welded for pipe size 3 inch and larger to ASME B31.1.
   3. Exterior gas piping above grade:
      a. Apply one coat of rust inhibitive primer paint and one finish coat of paint per manufacturer’s recommendation. Rust preventive enamel, OSHA approved. Color to be coordinated with Owner.

2.8 FLUE AND COMBUSTION AIR PIPING

A. CPVC Pipe: ULC S636 compliant, chlorinated polyvinyl chloride (CPVC-FGV) material.
   1. Fittings: ULC S636 compliant.
   2. Joints: ULC S636 compliant.

3. All ULC S636 compliant pipes, fitting and cements to be supplied from same manufacturer.

2.9 PIPE FLANGES, UNIONS, AND COUPLINGS

A. Unions for Pipe Sizes 2 inches and Under:
   1. Copper Tube and Pipe: Class 150 bronze unions with soldered joints.
   2. PVC Piping: PVC
   3. CPVC Piping: PVC

B. Flanges for Pipe Size Over 2 inches:
   1. Copper Tube and Pipe: Class 150 slip-on bronze flanges; preformed neoprene gaskets.
   2. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.
   3. PVC Piping: PVC.
   4. CPVC Piping: PVC.
   5. Gaskets: 1/16 inch thick preformed neoprene gaskets.

2.10 PIPE HANGERS AND SUPPORTS

A. Provide hangers and supports that comply with MSS SP-58.
   1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
   2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
   3. Trapeze Hangers: Welded steel channel frames attached to structure.
   4. Vertical Pipe Support: Steel riser clamp.

B. Plumbing Piping - Drain, Waste, and Vent:
   1. Conform to ASME B31.9.
   2. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron, adjustable swivel, split ring.
   3. Hangers for Pipe Sizes 2 inch and Over: Carbon steel, adjustable, clevis.
   4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   5. Wall Support for Pipe Sizes to 3 inch: Cast iron hook.
   6. Wall Support for Pipe Sizes 4 inch and Over: Welded steel bracket and wrought steel clamp.
   7. Vertical Support: Steel riser clamp.
   8. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   9. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

C. Plumbing Piping - Water:
   1. Conform to ASME B31.9.
   2. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron, adjustable swivel, split ring.
   3. Hangers for Cold Pipe Sizes 2 inch and Over: Carbon steel, adjustable, clevis.
   4. Hangers for Hot Pipe Sizes 2 to 4 inch: Carbon steel, adjustable, clevis.
   5. Hangers for Hot Pipe Sizes 6 inch and Larger: Adjustable steel yoke, cast iron pipe roll, double hanger.
   6. Multiple or Trapeze Hangers: Steel channels with welded supports or spacers and hanger rods.
   7. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches and Over: Steel channels with welded supports or spacers and hanger rods, cast iron roll.
   8. Wall Support for Pipe Sizes Up to 3 inch: Cast iron hook.
   9. Wall Support for Pipe Sizes 4 inch and Larger: Welded steel bracket and wrought steel clamp.
   10. Wall Support for Hot Pipe Sizes 6 inch and Larger: Welded steel bracket and wrought steel clamp with adjustable steel yoke and cast iron pipe roll.
   11. Vertical Support: Steel riser clamp.
   12. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   13. Floor Support for Hot Pipe Sizes to 4 inch: Cast iron adjustable pipe saddle, locknut, nipple, floor flange, and concrete pier or steel support.

14. Floor Support for Hot Pipe Sizes 6 inch and Larger: Adjustable cast iron pipe roll and stand, steel screws, and concrete pier or steel support.
15. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

D. Hanger Fasteners: Attach hangers to structure using appropriate fasteners, as follows:
1. Concrete Wedge Expansion Anchors: Comply with ICC-ES AC193.
2. Masonry Wedge Expansion Anchors: Comply with ICC-ES AC01.
3. Concrete Screw Type Anchors: Comply with ICC-ES AC193.
4. Masonry Screw Type Anchors: Comply with ICC-ES AC106.
5. Concrete Adhesive Type Anchors: Comply with ICC-ES AC308.

E. INSERTS
1. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

F. FLASHING
1. Metal Flashing: 26 gage thick galvanized steel.
2. Metal Counterflashing: 22 gage thick galvanized steel.
3. Lead Flashing:
   a. Waterproofing: 5 lb./sq. ft sheet lead.
   b. Soundproofing: 1 lb./sq. ft sheet lead.
4. Flexible Flashing: 47 mil thick sheet compatible with roofing.
5. Caps: Steel, 22 gage minimum; 16 gage at fire resistant elements.

G. SLEEVES
1. Sleeves for Pipes through Non-fire Rated Floors: 18 gage thick galvanized steel.
2. Sleeves for Pipes through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage thick galvanized steel.
3. Sealant: See Section 07 92 00 - Joint Sealants.

H. MECHANICAL SLEEVE SEALS
1. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

I. FORMED STEEL CHANNEL
1. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.

J. FIRESTOPPING
1. See Section 07 84 00 - Firestopping for firestopping requirements.

2.11 PIPE SLEEVE-SEAL SYSTEMS

A. Modular Mechanical Seals:
1. Elastomer-based interlocking links continuously fill annular space between pipe and wall-sleeve, wall or casing opening.
2. Watertight seal between pipe and wall-sleeve, wall or casing opening.
3. Size and select seal component materials in accordance to service requirements.
4. Glass reinforced plastic pressure end plates.

2.12 BALL VALVES

A. Manufacturers:
1. Substitutions: See Section 01 60 00 - Product Requirements.

B. Construction, 4 Inches and Smaller: MSS SP-110, Class 150, 400 psi CWP, bronze body, chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle, solder or threaded ends with union. Lead free.

2.13 PLUG VALVES

A. Construction 2-1/2 Inches and Larger: MSS SP-78, 175 psi CWP, cast iron body and plug, pressure lubricated, teflon or Buna N packing, flanged or grooved ends. Provide lever operator with set screw.

2.14 HORIZONTAL SWING CHECK VALVES

A. Up to 2 Inches:
1. MSS SP-80, 150, bronze body and cap, bronze swing disc with rubber seat, solder or threaded ends. Lead free.

2.15 SPRING LOADED CHECK VALVES

A. Up to 2 inches:
1. MSS SP 80, Class 250, bronze body, in-line spring lift check, silent closing, Buna-N disc, integral seat, threaded ends. Lead free.

B. 2-1/2 inches and Larger:

C. MSS SP 71, Class 125, wafer style, cast iron body, bronze seat, center guided bronze disc, stainless steel spring and screws, flanged ends.

2.16 PRESSURE REDUCING VALVES

A. 2 inch and Smaller:
1. MSS SP-80, bronze body, stainless steel and thermoplastic internal parts, fabric reinforced diaphragm, strainer, threaded single union ends. Lead free.
2. Pressure Reducing Pilot-Operator:
a. Operating Range: 5 to 50 psi.
b. Connected into brass or bronze pilot piping and fittings.
c. Fixed flow restrictor, pressure gauges, and isolation valves.
3. Provide pressure gauge onto inlet side and outlet side piping of valve.

B. 2 inch and Larger:
1. ASSE 1003, cast iron body with interior lining complying with AWWA C550, bronze fitted, elastomeric diaphragm and seat disc, flanged.
2. Pressure Reducing Pilot-Operator:
a. Operating Range: 5 to 50 psi.
b. Connected into brass or bronze pilot piping and fittings.
c. Fixed flow restrictor, strainer, pressure gauges, and isolation valves.
3. Provide pressure gauge onto inlet side and outlet side piping of valve.

2.17 PRESSURE GAUGES

A. Gauge: ASME B40.1, UL 393 with bourdon tube, rotary brass movement, brass socket, front calibration adjustment, black scale on white background.
1. Case: Steel
2. Bourdon Tube: Type 316 stainless steel.
3. Dial Size: 3-1/2 inch diameter.
4. Mid-Scale Accuracy: One percent.
5. Scale: Psi.

2.18 PRESSURE GAUGE TAPS

A. Needle Valve: Brass, 1/4 inch NPT for minimum 300 psi.

B. Ball Valve: Brass, 1/4 inch NPT for 250 psi.

C. Pulsation Damper: Pressure snubber, brass with 1/4 inch NPT connections.

2.19 STEM TYPE THERMOMETERS

A. Thermometer: ASTM E1, adjustable angle, red appearing indicator, lens front tube, cast aluminum case with enamel finish, cast aluminum adjustable joint with positive locking device.
   1. Size: 9 inch scale.
   2. Window: Clear Lexan.
   3. Stem: Brass, 3/4 inch NPT, 3-1/2 inch long.
   4. Accuracy: 2 percent.
   5. Calibration: Degrees F.
   6. Indicator shall be non-mercury.

2.20 HOSE BIBBS

A. Hose Bibb, HB-1: Lead-Free, interior use, rough chrome plated brass construction, wall mounted, cold water and hot water service with hose thread spout, integral stop valves, vacuum breaker, lever handles.

B. Hose Bibb, HB-1: Lead-Free, interior use, brass construction with integral vacuum breaker, hose connection.

2.21 WATER METER

A. Provide Lead Free water meter and remote reader as recommended by water service provider. Meter to register flow in Gallons. Plumbing Contractor to install meter and reader. Install meter in accordance with AWWA M6, with isolating valves on inlet and outlet.

B. Obtain meter from water service provider. If not possible, obtain approval of proposed meter from Director of Utility of Water Service Provider prior to water meter purchase.

2.22 HYDRANTS

A. Wall Hydrant, HYD-1: Lead-Free, interior use, self-draining type with lockable recessed box hose thread spout, locks shield and removable key, and integral vacuum breaker.

2.23 RECESSED VALVE BOX

A. Washing Machine: Plastic preformed rough-in box with brass long shank valves with wheel handles, socket for 2 inch waste, slip in finishing cover.

2.24 BACKFLOW PREVENTERS

A. Reduced Pressure Backflow Preventers, RPZ-1 (Domestic):
   1. Comply with ASSE 1013. Lead Free.
   2. Bronze body, with bronze internal parts and stainless steel springs.
   3. Two independently operating, spring loaded check valves; diaphragm type differential pressure relief valve located between check valves; third check valve opening under back pressure in case of diaphragm failure; non-threaded vent outlet; assembled with two gate valves, strainer, and four test cocks.
   4. Air gap per manufacturer's recommendation.
   5. Provide testing by State certified backflow prevention device tester, and document of Certification.

2.25 WATER HAMMER ARRESTOR -LEAD FREE

A. Stainless steel bellow type, complies with and sized in accordance with PDI WH-201.

B. Pre-charged suitable for operation in temperature range 34 to 250 degrees F and maximum 150 psi working pressure.

2.26 THERMOSTATIC MIXING VALVE

A. Valve: Chrome plated cast brass body, stainless steel or nickel plated bellows, integral temperature adjustment.

B. Accessories:
1. Check valve on inlets.
2. Volume control shut-off valve on outlet.
3. Stem thermometer on outlet.
4. Strainer stop checks on inlets.

C. Cabinet: 16 gage enameled steel, for surface mounting with keyed lock.

2.27 FLOOR DRAIN / FLOOR SINK

A. Floor Drain, FD-1: ASME A112.21.1; cast iron two piece body with double drainage flange, weep holes, 1/2 inch trap primer connection, reversible clamping collar, and round adjustable nickel-bronze strainer.

B. Floor Drain / Floor Sink Trap Primer Valve: ASSE 1018, corrosion resistant brass, piston operated, no springs or diaphragms, adjustable in line pressure, 1/2 inch inlet and outlet openings.

2.28 CLEANOUTS

A. Cleanout, Interior Finished Floor Area, CO-1: cast iron body with anchor flange, reversible clamping collar, threaded top assembly, and round polished bronze scoriated cover.

B. Cleanout, Interior Unfinished Inline Accessible Area, CO-2: cast iron body ferrule type with ABS countersunk plug.

C. Wall Cleanout, Interior Finished Wall Area, WCO-1: cast iron body with lacquered ABS tapered threaded plug and round stainless steel wall access cover with securing screw.

2.29 TRENCH DRAIN

A. Cast in place concrete trench drain with catch basins.

B. Polystyrene trench drain forms.

C. Structural steel trench rails complete with end rails and anchoring legs.

D. Ductile iron grate with locking device

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt, on inside and outside, before assembly. Protect open ends with temporary plugs or caps.

C. Prepare piping connections to equipment with flanges or unions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

D. Install piping to maintain headroom, conserve space, and not interfere with use of space.

E. Group piping whenever practical at common elevations.

F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment. See Section 22 05 16.

G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.

H. Provide access where valves and fittings are not exposed.

I. Install vent piping penetrating roofed areas to maintain integrity of roof assembly.

J. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc-rich primer to welding.

K. Provide support for utility meters in accordance with requirements of utility companies.

L. Excavate in accordance with Section 31 23 16.

M. Backfill in accordance with Section 31 23 23.

N. Trench - Provide 3 inches of sand for bedding material at trench bottom to provide uniform bedding for piping. Level bedding materials and install pipe on prepared bedding. Encase installed piping with 6 inches of pea gravel. Provide fill material to trench and compact to 90 percent maximum density. Route pipe in straight line.

O. Install bell and spigot pipe with bell end upstream.

P. Install valves with stems upright or horizontal, not inverted. See Section 22 05 23.

Q. Install water piping to ASME B31.9.

R. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.

S. Sleeve pipes passing through partitions, walls, and floors.

T. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.

U. PVC piping is not allowed to be installed in places of assembly, plenum spaces, exit discharge corridors or stairs. Use cast iron or copper piping in these locations.

V. Install firestopping at fire rated construction perimeters and openings containing penetrating sleeves and piping.

W. Install water hammer arrestors complete with accessible isolation valve on hot and cold water supply piping to fixtures to prevent hammer or install air chambers on hot and cold water supply piping to each fixture or group of fixtures (each washroom). Fabricate same size as supply pipe or 3/4 inch minimum, and minimum 18 inches long.

X. Inserts:
   1. Provide inserts for placement in concrete formwork.
   2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
   3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.

4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
5. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut above slab.

Y. Pipe Hangers and Supports:
1. Install in accordance with ASME B31.9.
2. Support horizontal piping as indicated.
3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
4. Place hangers within 12 inches of each horizontal elbow.
5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
6. Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping.
7. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
8. Provide copper plated hangers and supports for copper piping.
9. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
10. Provide hangers adjacent to motor-driven equipment with vibration isolation; see Section 22 05 48.
11. Support cast iron drainage piping at every joint.

Z. Pipe Sleeve-Seal Systems:
1. Install manufactured sleeve-seal systems in sleeves located in grade slabs and exterior concrete walls at piping entrances into building.
2. Provide sealing elements of the size, quantity, and type required for the piping and sleeve inner diameter or penetration diameter.
3. Locate piping in center of sleeve or penetration.
4. Install field assembled sleeve-seal system components in annular space between sleeve and piping.
5. Tighten bolting for a watertight seal.
6. Install in accordance with manufacturer's recommendations.

AA. Equipment Bases and Supports
1. Provide housekeeping pads of concrete, minimum 3-1/2 inches thick and extending 6 inches beyond supported equipment. Refer to Section 03 30 00.
2. Using templates furnished with equipment, install anchor bolts, and accessories for mounting and anchoring equipment.
3. Construct supports of steel members or formed steel channel. Brace and fasten with flanges bolted to structure.
4. Provide rigid anchors for pipes after vibration isolation components are installed. Refer to Section 22 05 48.

BB. Flashing
1. Provide flexible flashing and metal counterflashing where piping penetrates weather or waterproofed walls, floors, and roofs.
2. Flash vent and soil pipes projecting 3 inches minimum above finished roof surface with lead worked 1 inch minimum into hub, 8 inches minimum clear on sides with 24 x 24 inches sheet size. For pipes through outside walls, turn flanges back into wall and caulk, metal counter-flash, and seal.
3. Flash floor drains in floors with topping over finished areas with lead, 10 inches clear on sides with minimum 36 x 36 inch sheet size. Fasten flashing to drain clamp device.
4. Seal floor, shower, and mop sink drains watertight to adjacent materials.
5. Adjust storm collars tight to pipe with bolts; caulk around top edge. Use storm collars above roof jacks. Screw vertical flange section to face of curb.

CC. Sleeves
1. Set sleeves in position in forms. Provide reinforcing around sleeves.

2. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
3. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
4. Where piping penetrates floor, ceiling, or wall, close off space between pipe and adjacent work with fire stopping, insulation and caulk airtight. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
5. Install chrome plated steel escutcheons at finished surfaces.

3.4 APPLICATION

A. Install unions downstream of valves and at equipment or apparatus connections.

B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.

C. Install ball valves for shut-off and to isolate equipment, part of systems, branch piping, or vertical risers.

D. Install globe valves for throttling, bypass, or manual flow control services.

3.5 TOLERANCES

A. Sanitary Drainage Piping: Establish invert elevations, slopes for drainage to 1/8 inch per foot minimum on mains 4 inches and larger. Install branch mains smaller than 4 inch with 1/4 inch per foot minimum.

3.6 FIELD TESTS AND INSPECTIONS

A. Verify and inspect systems according to requirements by the Authority Having Jurisdiction. In the absence of specific test and inspection procedures proceed as indicated below.

B. Domestic Water Systems:
1. Perform hydrostatic testing for leakage prior to system disinfection.
2. Test Preparation: Close each fixture valve or disconnect and cap each connected fixture.
3. General:
   a. Fill the system with water and raise static head to 10 psi above service pressure. Minimum static head of 50 to 150 psi. As an exception, certain codes allow a maximum static pressure of 80 psi.

C. Test Results: Document and certify successful results, otherwise repair, document, and retest.

3.7 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Final water samples shall be sent to a State Department of Health approved testing lab in the State of New York and sample test results shall be submitted to A/E of record.

B. Prior to starting work, verify system is complete, flushed, and clean.

C. Ensure acidity (pH) of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).

D. Inject disinfectant, free chlorine in liquid, powder, tablet, or gas form throughout system to obtain 50 to 80 mg/L residual.

E. Bleed water from outlets to ensure distribution and test for disinfectant residual at minimum 15 percent of outlets.

F. Maintain disinfectant in system for 24 hours.

G. If final disinfectant residual tests less than 25 mg/L, repeat treatment.

H. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.

I. Take samples no sooner than 24 hours after flushing, from 10 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

3.8 SERVICE CONNECTIONS

A. Provide new water service complete with approved reduced pressure backflow preventer and water meter with by-pass valves, pressure reducing valve, and sand strainer.

B. Test sanitary waste, vent piping and storm drainage system in accordance with Plumbing Code of the State of New York.

C. Test backflow prevention device in accordance with ASSE 5013, by State certified backflow prevention device tester.
   1. Provide test results and Certification of tester.

D. Test domestic water piping system in accordance with Plumbing Code of the State of New York.

E. Provide new gas piping into building. Building gas service distribution piping to have pressure of [1/2] psi.

F. Test 1/2 psi gas piping system at 10 psi for one hour in accordance with Fuel Gas Code of the State of New York .

3.9 SCHEDULES

A. Pipe Hanger Spacing:
   1. Metal Piping:
      a. Pipe Size: 1/2 inch to 1-1/4 inch:
         1) Maximum Hanger Spacing: 6.5 ft.
         2) Hanger Rod Diameter: 3/8 inches.
      b. Pipe Size: 1-1/2 inch to 2 inch:
         1) Maximum Hanger Spacing: 10 ft.
         2) Hanger Rod Diameter: 3/8 inch.
      c. Pipe Size: 2-1/2 inch to 3 inch:
         1) Maximum Hanger Spacing: 10 ft.
         2) Hanger Rod Diameter: 1/2 inch.
      d. Pipe Size: 4 inch to 6 inch:
         1) Maximum Hanger Spacing: 10 ft.
         2) Hanger Rod Diameter: 5/8 inch.
   2. Cast Iron (All Sizes) pipe length less than 10’:
      a. Maximum hanger Spacing: 5 ft.
      b. Hanger rod diameter: 5/8 inch
   3. Cast Iron (All Sizes) with 10 foot length of pipe
      a. Maximum hanger Spacing: 10 ft.
      b. Hanger rod diameter: 5/8 inch
   4. CPVC, 1 inch and smaller
      a. Maximum hanger Spacing: 3 ft.
      b. Hanger rod diameter: 1/2 inch
   5. CPVC, 1-1/4 inches and larger
      a. Maximum hanger Spacing: 4 ft.
      b. Hanger rod diameter: 1/2 inch
   6. Copper Tube, 1-1/4 inches and smaller
      a. Maximum hanger Spacing: 6 ft.
      b. Hanger rod diameter: 1/2 inch
   7. Copper Tube, 1-1/2 inches and larger
      a. Maximum hanger Spacing: 10 ft.
      b. Hanger rod diameter: 1/2 inch
   8. PVC (All Sizes)
      a. Maximum hanger Spacing: 4 ft.

b. Hanger rod diameter: 3/8 inch

END OF SECTION

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SECTION 22 15 00
GENERAL-SERVICE COMPRESSED-AIR SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Reciprocating air compressors.

B. Air dryers.

C. Pipe and fittings.

D. Unions and couplings.

E. Pressure reducing stations.

F. Air outlets.

1.2 RELATED REQUIREMENTS

A. Section 22 05 53 - Identification for Plumbing Piping and Equipment.

1.3 REFERENCE STANDARDS

A. ASME BPVC - Boiler and Pressure Vessel Code; 2025.

B. ASME B16.3 - Malleable Iron Threaded Fittings: Classes 150 and 300; 2021.

C. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings; 2021.

D. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes; 2024.

E. ASME B16.51 - Copper and Copper Alloy Press-Connect Pressure Fittings; 2021.

F. ASME B31.1 - Power Piping; 2024.

G. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2024.

H. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service; 2025.

I. ASTM B32 - Standard Specification for Solder Metal; 2020.

J. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2022.

K. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2020.

L. ASTM F3226/F3226M - Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems; 2019 (Reapproved 2024).

M. IAPMO/ANSI/CAN Z1117 - Standard for Press Connections; 2022.

1.4 SUBMITTALS

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

B. Product Data: Provide manufacturers catalog literature with capacity, weight, and electrical characteristics and connection requirements.

C. Shop Drawings: Indicate piping system schematic with electrical characteristics and connection requirements.

D. Operation Data: Submit for air compressor, air receiver, and accessories, aftercooler, refrigerated air dryer, and pressure reducing station.

E. Maintenance Data: Submit for air compressor, air receiver, and accessories, aftercooler, refrigerated air dryer, and pressure reducing station.

F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

G. Project Record Documents: Record actual locations of equipment and components. Modify shop drawings to indicate final locations.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01 60 00 - Product Requirements for additional provisions.
2. Extra Compressor Oil: One container, quart size.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with ASME B31.1 code for installation of piping systems and ASME Section IX for welding materials and procedures.

B. Perform Work in accordance with AWS D1.1 for welding hanger and support attachments to building structure.

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

D. Installer: Company specializing in performing work of this section with minimum three years documented experience approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect piping from weather and construction traffic. Maintain factory packaging and caps in place until installation.

B. Deliver each length of piping with manufacturer’s plugged or capped ends and keep sealed until installation.

C. Deliver fittings, valves, and other components in sealed containers and keep sealed until installation.

D. Accept air compressors, refrigerated air dryer on site in factory-fabricated containers with shipping skids and plastic pipe end protectors in place. Inspect for damage.

E. Protect piping and equipment from weather and construction traffic.

1.7 WARRANTY

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

B. Provide five year manufacturer warranty for reciprocating air compressors.

PART 2 PRODUCTS

2.1 RECIPROCATING AIR COMPRESSORS

A. Type: Simplex air compressor system with fixed belt-driven mechanism.

B. Electrically driven, air-cooled compressor unit; factory-assembled with air intake, intake filters, after-cooler, oil separator, oil cooler, moisture separator with drain trap, oil charging valve, gauges, sight glasses, vibration isolators, controls, and safeties.

C. Mounting: Tank mounted.

D. Receiver Accumulator Tank: 120 gal, mount compressor on horizontal aligned tank.

2.2 VALVES

A. Ball Valves:
   1. Manufacturers:
      a. Crane Valve, North America; www.craneco.com
      b. Milwaukee Valve Company; www.milwaukeevalve.com
      c. NIBCO, Inc.; www.nibco.com
      d. 2 inches and Smaller: MSS SP 110, Class 150, bronze, two piece body, type 316 stainless steel ball, full port, teflon seats, blow-out proof stem, solder or threaded ends with union, lever handle with balancing stops.
      e. 2 inches and Smaller: MSS SP 110, Class 150, bronze, three piece body, type 316 stainless steel] ball, full port, teflon seats, blow-out proof stem, solder or threaded ends, lever handle with balancing stops.

2.3 FLEXIBLE CONNECTORS

A. 2 inches and Smaller: Corrugated stainless steel hose with single layer of stainless steel exterior braiding, Schedule 40 black steel ends; maximum working pressure 190 psig, threaded or soldered connections.

2.4 AIR DRYERS

A. Type: Self-contained mechanical refrigeration type complete with heat exchanger, refrigeration compressor, automatic controls, moisture removal trap, internal wiring and piping, and full refrigerant charge.

B. Air Connections: Inlet and outlet connections at same level, factory insulated.

C. Accessories: Air inlet temperature gauge, air inlet pressure gauge, on/off switch, high temperature light, power on light, refrigerant gauge, air outlet temperature gauge, air outlet pressure gauge.

2.5 PIPE AND FITTINGS

A. Steel Pipe: ASTM A53/A53M, Schedule 40 black.
   1. Mechanical Press Sealed Fittings: ASTM F3226/F3226M, with EPDM or HNBR seals.

B. Copper Tube: ASTM B88 (ASTM B88M), Type K, drawn temper.
   1. Mechanical Press Sealed Fittings: ASME B16.51, ASTM F3226/F3226M, or IAPMO/ANSI/CAN Z1117, with EPDM or HNBR seals.
   2. Joints: Mechanically pressed.

2.6 UNIONS AND COUPLINGS

A. Unions:
   1. Ferrous Pipe: 150 psi malleable iron threaded unions.
   2. Copper Tube and Pipe: 150 psi bronze unions with soldered joints.

2.7 PRESSURE REDUCING STATIONS

A. Pressure Reducing Station: Consisting of automatic reducing valve and bypass and low pressure side relief valve and gauge. Provide oil separator where indicated.

B. Valve Capacity: Reduce pressure from 200 psi to 30 psi, adjustable upwards from reduced pressure.

2.8 AIR OUTLETS

A. Quick Connector: 3/8 inch brass, snap-on connector with self closing valve, Style A.

PART 3 EXECUTION

3.1 INSTALLATION - ABOVE GROUND PIPING - COMPRESSED AIR SYSTEMS

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

B. Provide inserts for placement in concrete forms.

C. Provide hooked rod to concrete reinforcement section for inserts carrying pipe 4 inches and larger.

D. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut flush with top of slab.

E. Make air cock and drain connection on horizontal casing.

F. Install line size ball valve and check valve on compressor discharge. See Section 22 05 23.

G. Connect condensate drains to nearest floor drain.

H. Install valved drip connections at low points of piping system. See Section 22 05 23.

I. Install takeoffs to outlets from top of main, with shut off valve after takeoff. Slope takeoff piping to outlets.

J. Install compressed air couplings, female quick connectors, and pressure gages.

K. Install tees instead of elbows at changes in direction of piping. Fit open end of each tee with plug.

L. Cut pipe and tubing accurately and install without springing or forcing.

M. Slope piping in direction of flow.

N. Install pipe sleeves where pipes and tubing pass through walls, floors, roofs, and partitions.

O. Install firestopping at fire rated construction perimeters and openings containing penetrating sleeves and piping.

P. Install manual shut off valves with stem vertical and accessible for operation and maintenance.

Q. Identify piping system and components. See Section 22 05 53.

R. Install strainers on inlet side of pressure reducing valves. Install pressure reducing valves with bypasses and isolation valves to allow maintenance without interruption of service.

S. Stainless Steel Pipe with press-type Joints: Square cut ends to plus or minus 0.030 inches tolerance. Remove burrs and clean ends. Fully insert tubing into fitting and mark pipe ends to ensure full insertion into coupling or fitting during assembly. Press joint using manufacturer’s tool with proper sized jaw.

T. Copper Pipe with press-type Joints: Remove burrs and clean ends. Fully insert tubing into fitting and mark pipe ends to ensure full insertion into coupling or fitting. Check alignment against mark to assure tubing is fully inserted. Press joint using manufacturer’s tool.

3.2 FIELD QUALITY CONTROL

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

B. Compressed Air Piping Leak Test: Prior to initial operation, clean and test compressed air piping in accordance with ASME B31.1.

C. Repair or replace compressed air piping as required to eliminate leaks, and retest to demonstrate compliance.

D. Verify for atmospheric pressure in piping systems, other than system under test.

E. Test system with dry compressed air or dry nitrogen with test pressure in piping system at 50 psi.

F. Cap and seal ends of piping when not connected to mechanical equipment.

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SECTION 22 30 00
PLUMBING EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Commercial gas-fired water heaters.

B. Diaphragm-type compression tanks.

1.2 RELATED REQUIREMENTS

A. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.3 REFERENCE STANDARDS

A. ANSI Z21.10.1 - Gas Water Heaters, Volume I, Storage Water Heaters with Input Ratings of 75,000 Btu per Hour or Less; 2019 (Reaffirmed 2024).

B. ANSI Z21.10.3 - Gas-Fired Water Heaters, Volume III, Storage Water Heaters with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous; 2019 (Reaffirmed 2024).

C. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

D. ASME BPVC-VIII-1 - Boiler and Pressure Vessel Code, Section VIII, Division 1: Rules for Construction of Pressure Vessels; 2025, with Errata .

1.4 SUBMITTALS

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

B. Product Data:
   1. Product Data: Provide manufacturer's literature and data sheets for each product. Include information on materials of fabrication, assembly of components, dimensions, weights, capabilities, performance, electrical characteristics, location and sizes of connections, service and access locations, and manufacturer-provided and field-installed accessories.

C. Shop Drawings:
   1. Provide for the following equipment:
      a. Water heaters.
   2. Provide plans and elevations showing equipment assembly, including fabrication and installation details. Show location and sizes of connections.
   3. Indicate clearances required for service, access, maintenance, and replacement of internal components.

D. Manufacturer's qualification statement.

E. Project Record Documents: Record actual locations of components.

F. Operation and Maintenance Data: Include operation, maintenance, and inspection data, replacement part numbers and availability, and service depot location and telephone number.

G. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01 60 00 - Product Requirements for additional provisions.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

B. Certifications:
1. Water Heaters: NSF approved.
2. Gas Water Heaters: ANSI Z21.10.1 and ANSI Z21.10.3.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

B. Accept water heaters on site in original labeled cartons. Inspect for damage.

1.7 WARRANTY

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

PART 2 PRODUCTS

2.1 WATER HEATERS

A. Manufacturers:

B. Commercial Gas-Fired Water Heaters:
1. Type: Automatic, natural gas-fired, vertical storage.
2. Minimum Efficiency Required: ASHRAE Std 90.1 I-P.
3. Tank: Glass-lined, welded steel, ASME labeled; multiple flue passages, 4-inch diameter inspection port, thermally insulated with minimum 2 inches glass fiber, encased in corrosion-resistant steel jacket; baked-on enamel finish; floor shield and legs.
4. Safety Devices: In accordance with applicable Plumbing Code of the State of New York.
5. Accessories:
a. Concentric Vent Kit.
b. Neutralization Kit.
c. Water Connections: Brass.
d. Dip Tube: Brass.
e. Drain valve.
f. Anode: Magnesium.
6. Controls: All controls are located at top of heater. Microprocessor controlled ignition and water thermostat for precise setting of water temperatures ranging from 110 to 180 degrees F. A digital display panel showing operating mode, user settings and failure mode.
7. Refer to plumbing fixture schedule on drawing for Manufacturer, Model, Trim and Remarks.

2.2 DIAPHRAGM-TYPE COMPRESSION TANKS

A. Construction: Welded steel, tested and stamped in accordance with ASME BPVC-VIII-1; supplied with National Board Form U-1, rated for working pressure of 125 psig, with flexible EPDM diaphragm sealed into tank, and steel legs or saddles.

B. Accessories: Pressure gauge and air-charging fitting, tank drain; precharge to 12 psig.

2.3 DOMESTIC PUMPS

A. Domestic Pump, Recirculation, DP-1: UL and CSA listed, rated for 140 psig maximum working pressure, bronze or stainless steel casing, polypropylene (glass filled) impeller, stainless steel shaft, graphite bearing, EPDM gasket and aquastat

B. Domestic Pump, Condensate - Water Heater, DP-2: UL and CSA listed, 1 gallon ABS plastic leakproof tank condensate unit for acidic application, stainless steel shaft, safety switch, steel tank cover

PART 3 EXECUTION

3.1 INSTALLATION

A. Install plumbing equipment in accordance with manufacturer's instructions, as required by code, and complying with conditions required for applicable certifications.

B. Coordinate system, equipment, and piping work with applicable electrical, fuel, gas, vent, drain, and waste support interconnections as included or provided by other trades.

C. Domestic Water Heater:
1. Install water heater on concrete housekeeping pad, minimum 3-1/2 inches high and 6 inches larger than water heater on each side. Refer to Section 03 30 00.
2. Maintain manufacturer's recommended clearances around and over water heaters.
3. Connect natural gas piping in accordance with NFPA 54.
4. Connect natural gas piping to water heater, full size of water heater gas train inlet. Arrange piping with clearances for burner removal and service.
5. Connect domestic hot water piping to outlet connection and connect domestic hot water recirculation piping to domestic cold water piping. Connect cold water piping to inlet connections.
6. Install the following piping accessories.
    a. On supply:
        1) Thermometer well and thermometer.
        2) Strainer.
        3) Pressure gage.
        4) Shutoff valve.
    b. On return:
        1) Thermometer well and thermometer.
        2) Pressure gage.
        3) Shutoff valve.
    c. Install the following piping accessories on natural gas piping connections. Refer to Section 22 10 05.
        1) Strainer.
        2) Pressure gage.
        3) Shutoff valve.
        4) Pressure reducing valve.
7. Install discharge piping from relief valves and drain valves to nearest floor drain.
8. Install circulator and diaphragm expansion tank on water heater.
9. Install water heater trim and accessories furnished loose for field mounting.
10. Install electrical devices furnished loose for field mounting.
11. Install control wiring between water heater control panel and field mounted control devices.
12. Connect CPVC flue to water heater outlet, full size of outlet.
13. Install Work in accordance with applicable Plumbing Code of the State of New York.

END OF SECTION

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SECTION 22 40 00
PLUMBING FIXTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Flush valve water closets.

B. Lavatories.

C. Under-lavatory pipe supply covers.

1.2 RELATED REQUIREMENTS

A. Section 22 10 05 - Plumbing Piping and Specialties.

B. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASHRAE Std 18 - Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration; 2008 (Reaffirmed 2013).

C. ASME A112.6.1M - Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use; 1997 (Reaffirmed 2017).

D. ASME A112.18.1 - Plumbing Supply Fittings; 2024.

E. ASME A112.19.2 - Ceramic Plumbing Fixtures; 2024.

F. ASME A112.19.3 - Stainless Steel Plumbing Fixtures; 2022.

G. ASME A112.19.5 - Flush Valves and Spuds for Water Closets, Urinals, and Tanks; 2022.

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

I. NSF 61 - Drinking Water System Components - Health Effects; 2025, with Addendum

J. NSF 372 - Drinking Water System Components - Lead Content; 2024.

K. ARI 1010 - Self-Contained, Mechanically Refrigerated Drinking-Water Coolers

1.4 SUBMITTALS

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

B. Product Data: Provide manufacturer's literature and data sheets for each product. Include materials of fabrication, rough-in requirements, location and sizes of connections, configurations, dimensions, finishes, features, and accessories.

C. Maintenance Data: Include fixture trim exploded view and replacement parts lists.

D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 01 60 00 - Product Requirements for additional provisions.
2. Flush Valve Service Kits: One for each type and size.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.6 REGULATORY REQUIREMENTS

A. Plumbing piping, joints, faucets, etc. must comply with the requirements, and bear the label indicating the materials comply with the definition of “lead free” requirement of the Environmental Protection Agency “Reduction of Lead in Drinking Water Act”.

B. Lead Water Testing: Lead water testing shall be conducted at all Lavatories, Sinks and Drinking Fountains in accordance with Public Health Law section 1370-a and 1110, Subpart 67-4 of Title 10 (Health) of the Official Compilation of Codes, Rules and Regulations of the State of New York and the Environmental Protection Agency 3T’s for Reducing Lead in Drinking Water.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Accept fixtures on-site in factory packaging. Inspect for damage.

B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.8 WARRANTY

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

B. Provide standard manufacturer warranty for Plumbing Fixtures.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Potable Water Systems: Provide drinking water system components certified as complying with NSF 61 and NSF 372.

B. ADA: Where indicated to be ADA-compliant, provide fixtures complying with ADA Standards and ICC A117.1.

2.2 MANUFACTURERS:

A. Refer to Plumbing Fixture Schedule on drawing for Manufacturer, Model, Trim and Remarks.

2.3 FLUSH VALVE WATER CLOSETS

A. Water Closet Bowl (WC-1): ASME A112.19.2; ADA compliant, 16-1/2 inch rim height, floor mount, siphon jet, vitreous china closet bowl with elongated rim, 1-1/2 inch top spud and 1.28 gallon flush volume.

B. Flush Valve, Manually Operated (WC-1): ADA compliant, exposed chrome plated, diaphragm type with oscillating handle, escutcheon, seat bumper, integral screwdriver stop, vacuum breaker and 1.28 gallon flush volume for use with 1-1/2 inch top spud.

C. Toilet Seats:

1. Elongated solid white plastic, open front without cover, self-sustaining hinge, brass bolts.
2. Elongated solid white seat and hinges, open front without cover, scalloped handhold for use with child floor mounted water closet.

D. Water Closet Accessories:
1. Toilet mounting flange, bowl ring, mounting hardware, bolt caps. For handicap and non-handicap floor mounted water closets.

2.4 LAVATORIES

A. Lavatory, Vitreous China Wall Mount Basin (LAV-1): ASME A112.19.2; ADA compliant, vitreous china wall mount, 20 x 18 inch minimum, with 4 inch high back, single hole faucet mount drilling, D-shaped basin with splash lip, front overflow and grid drain. For handicap and non-handicap lavatories. Provide offset grid drain and pipe covers for handicap lavatory.

B. Manual Faucet: ASME A112.18.1: ADA compliant, low lead content, 4 inch on center mount, chrome finish, maximum 0.50 gpm flow of 60 psig, color coded wristblade handles.

C. Wall Mounted Carrier: ASME A112.6.1; Cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded studs for fixture hanger, concealed arm supports, bearing plate and studs. For handicap and non-handicap lavatories.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify walls, floors, and finishes are prepared and ready for installation of fixtures.

B. Verify rough-ins for field connections match sizes and locations shown on drawings.

C. Verify electric power is available and of the correct characteristics.

D. Verify casework and countertops are prepared and ready for installation of fixtures.

3.2 INSTALLATION

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

B. Install components level and plumb.

C. Secure fixtures in place with wall supports and bolts.

D. Solidly attach water closets to floor with lag screws. Lead flashing is not intended to hold fixture in place.

E. Install rigid or flexible supplies to fixtures. Provide loose key supply stops, reducers, and escutcheons.

3.3 ADJUSTING

A. Adjust stops and valves so fixtures operate without splashing, noise, or overflow.

3.4 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Clean plumbing fixtures to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.5 PROTECTION

A. Protect installed products from damage due to subsequent construction operations.

B. Do not permit use of fixtures by construction personnel.

END OF SECTION

SECTION 23 05 93
TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Testing, adjustment, and balancing of air systems.

B. Measurement of final operating condition of HVAC systems.

1.2 RELATED REQUIREMENTS

A. Section 01 40 00 - Quality Requirements: Employment of testing agency and payment for services.

1.3 REFERENCE STANDARDS

A. AABC (NSTSB) - AABC National Standards for Total System Balance, 7th Edition; 2016.

B. ASHRAE Std 111 - Measurement, Testing, Adjusting, and Balancing of Building HVAC Systems; 2024, with Errata (2025).

C. NEBB (TAB) - Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems; 2019, with Errata (2022).

D. SMACNA (TAB) - HVAC Systems Testing, Adjusting and Balancing; 2023.

1.4 SUBMITTALS

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

B. Installer Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract.

C. TAB Plan: Submit a written plan indicating the testing, adjusting, and balancing standard to be followed and the specific approach for each system and component.
   1. Submit to Architect.
   2. Submit to the project engineer.
   3. Submit six weeks prior to starting the testing, adjusting, and balancing work.
   4. Include certification that the plan developer has reviewed Contract Documents, the equipment and systems, and the control system with the Architect and other installers to sufficiently understand the design intent for each system.
   5. Include at least the following in the plan:
      a. Preface: An explanation of the intended use of the control system.
      b. List of all air flow, water flow, sound level, system capacity and efficiency measurements to be performed and a description of specific test procedures, parameters, formulas to be used.
      c. Copy of field checkout sheets and logs to be used, listing each piece of equipment to be tested, adjusted and balanced with the data cells to be gathered for each.
      d. Identification and types of measurement instruments to be used and their most recent calibration date.
      e. Discussion of what notations and markings will be made on the duct and piping drawings during the process.
      f. Final test report forms to be used.
      g. Detailed step-by-step procedures for TAB work for each system and issue, including:
         1) Terminal flow calibration (for each terminal type).
         2) Diffuser proportioning.

3) Branch/submain proportioning.
4) Total flow calculations.
5) Rechecking.
6) Diversity issues.

h. Procedures for formal deficiency reports, including scope, frequency and distribution.

D. Field Logs: Submit at least once a week to project engineer / Commissioning Authority.

E. Control System Coordination Reports: Communicate in writing to the controls installer all setpoint and parameter changes made or problems and discrepancies identified during TAB that affect, or could affect, the control system setup and operation.

F. Progress Reports.

G. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
1. Submit to the project engineer within two weeks after completion of testing, adjusting, and balancing.
2. Revise TAB plan to reflect actual procedures and submit as part of final report.
3. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Architect and for inclusion in operating and maintenance manuals.
4. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
5. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
6. Units of Measure: Report data in I-P (inch-pound) units only.
7. Include the following on the title page of each report:
a. Name of Testing, Adjusting, and Balancing Agency.
b. Address of Testing, Adjusting, and Balancing Agency.
c. Telephone number of Testing, Adjusting, and Balancing Agency.
d. Project name.
e. Project location.
f. Project Engineer.
g. Project Contractor.
h. Report date.

H. Project Record Documents: Record actual locations of flow measuring stations and balancing valves and rough setting.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Furnish final copy of testing, adjusting, and balancing report inclusion in operating and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with NEBB Procedural Standards for Testing, Balancing and Adjusting of Environmental Systems.

B. Maintain one copy of each document on site.

C. Prior to commencing Work, calibrate each instrument to be used.

1.7 QUALIFICATIONS

A. Agency: Company specializing in testing, adjusting, and balancing of systems specified in this section with minimum three years documented experience certified by AABC or Certified by NEBB.

1.8 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

1.9 SEQUENCING

A. Section 01 10 00 - Summary: Work sequence.

B. Sequence balancing between completion of systems tested and Date of Substantial Completion.

1.10 SCHEDULING

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

A. Perform total system balance in accordance with one of the following:
1. AABC (NSTSB), AABC National Standards for Total System Balance.
2. ASHRAE Std 111, Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems.
3. SMACNA (TAB).

B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.

C. Where HVAC systems and/or components interface with life safety systems, including fire and smoke detection, alarm, and control, coordinate scheduling and testing and inspection procedures with the authorities having jurisdiction.

D. TAB Agency Qualifications:
1. Company specializing in the testing, adjusting, and balancing of systems specified in this section.
2. Having minimum of three years documented experience.
3. Certified by one of the following:
a. AABC, Associated Air Balance Council: www.aabc.com/#sle; upon completion submit AABC National Performance Guaranty.
b. NEBB, National Environmental Balancing Bureau: www.nebb.org/#sle.
c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute: www.tabbcertified.org/#sle.

E. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

3.2 EXAMINATION

A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
1. Systems are started and operating in a safe and normal condition.
2. Temperature control systems are installed complete and operable.
3. Proper thermal overload protection is in place for electrical equipment.
4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
5. Duct systems are clean of debris.
6. Fans are rotating correctly.
7. Fire and volume dampers are in place and open.

8. Air coil fins are cleaned and combed.
9. Access doors are closed and duct end caps are in place.
10. Air outlets are installed and connected.
11. Duct system leakage is minimized.

B. Submit field reports. Report defects and deficiencies that will or could prevent proper system balance.

3.3 PREPARATION

A. Hold a pre-balancing meeting at least one week prior to starting TAB work.
1. Require attendance by all installers whose work will be tested, adjusted, or balanced.

B. Provide instruments required for testing, adjusting, and balancing operations. Make instruments available to Architect and project engineer / Commissioning Authority to facilitate spot checks during testing.

3.4 ADJUSTMENT TOLERANCES

A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 5 percent of design for return and exhaust systems.

3.5 RECORDING AND ADJUSTING

A. Field Logs: Maintain written logs including:
1. Running log of events and issues.
2. Discrepancies, deficient or uncompleted work by others.
3. Contract interpretation requests.
4. Lists of completed tests.

B. Ensure recorded data represents actual measured or observed conditions.

C. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.

D. Mark on drawings the locations where traverse and other critical measurements were taken and cross reference the location in the final report.

E. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.

F. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.

G. At final inspection, recheck random selections of data recorded in report. Recheck points or areas as selected and witnessed by the Owner.

H. Check and adjust systems approximately six months after final acceptance and submit report.

3.6 AIR SYSTEM PROCEDURE

A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities at site altitude.

B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.

C. Measure air quantities at air inlets and outlets.

D. Adjust distribution system to obtain uniform space temperatures free from objectionable drafts and noise.

E. Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices such as dampers and splitters.

F. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.

G. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.

H. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions.

I. Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.

J. Where modulating dampers are provided, take measurements and balance at extreme conditions. Balance variable volume systems at maximum air flow rate, full cooling, and at minimum air flow rate, full heating.

K. Measure building static pressure and adjust supply, return, and exhaust air systems to provide required relationship between each to maintain approximately 0.05 inches positive static pressure near the building entries.

L. Check multi-zone units for motorized damper leakage. Adjust air quantities with mixing dampers set first for cooling, then heating, then modulating.

M. For variable air volume system powered units set volume controller to air flow setting indicated. Confirm connections properly made and confirm proper operation for automatic variable air volume temperature control.

3.7 SCOPE

A. Test, adjust, and balance the following:
1. Forced Air Furnaces.
2. Air Cooled Refrigerant Condensers.
3. Fans.
4. Air Filters.
5. Air Inlets and Outlets.

3.8 MINIMUM DATA TO BE REPORTED

A. Electric Motors:
1. Manufacturer.
2. Model/Frame.
3. HP/BHP.
4. Phase, voltage, amperage; nameplate, actual, no load.
5. RPM.
6. Service factor.
7. Starter size, rating, heater elements.
8. Sheave Make/Size/Bore.

B. V-Belt Drives:
1. Identification/location.
2. Required driven RPM.
3. Driven sheave, diameter and RPM.
4. Belt, size and quantity.
5. Motor sheave diameter and RPM.
6. Center to center distance, maximum, minimum, and actual.

C. Combustion Equipment:

1. Boiler manufacturer.
2. Model number.
3. Serial number.
4. Firing rate.
5. Overfire draft.
6. Gas meter timing dial size.
7. Gas meter time per revolution.
8. Gas pressure at meter outlet.
9. Gas flow rate.
10. Heat input.
11. Burner manifold gas pressure.
12. Percent carbon monoxide (CO).
13. Percent carbon dioxide (CO2).
14. Percent oxygen (O2).
15. Percent excess air.
16. Flue gas temperature at outlet.
17. Ambient temperature.
18. Net stack temperature.
19. Percent stack loss.
20. Percent combustion efficiency.
21. Heat output.

D. Air Cooled Condensers:
1. Identification/number.
2. Location.
3. Manufacturer.
4. Model number.
5. Serial number.
6. Entering DB air temperature, design and actual.
7. Leaving DB air temperature, design and actual.
8. Number of compressors.

E. Cooling Coils:
1. Identification/number.
2. Location.
3. Service.
4. Manufacturer.
5. Air flow, design and actual.
6. Entering air DB temperature, design and actual.
7. Entering air WB temperature, design and actual.
8. Leaving air DB temperature, design and actual.
9. Leaving air WB temperature, design and actual.
10. Entering water temperature, design and actual.
11. Leaving water temperature, design and actual.
12. Saturated suction temperature, design and actual.
13. Air pressure drop, design and actual.

F. Return Air/Outside Air:
1. Identification/location.
2. Design air flow.
3. Actual air flow.
4. Design return air flow.
5. Actual return air flow.
6. Design outside air flow.
7. Actual outside air flow.
8. Return air temperature.
9. Outside air temperature.
10. Required mixed air temperature.

11. Actual mixed air temperature.
12. Design outside/return air ratio.
13. Actual outside/return air ratio.

G. Exhaust Fans:
1. Location.
2. Manufacturer.
3. Model number.
4. Serial number.
5. Air flow, specified and actual.
6. Total static pressure (total external), specified and actual.
7. Inlet pressure.
8. Discharge pressure.
9. Sheave Make/Size/Bore.
10. Number of Belts/Make/Size.
11. Fan RPM.

H. Duct Traverses:
1. System zone/branch.
2. Duct size.
3. Area.
4. Design velocity.
5. Design air flow.
6. Test velocity.
7. Test air flow.
8. Duct static pressure.
9. Air temperature.
10. Air correction factor.

END OF SECTION

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SECTION 23 07 13
DUCT INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Duct insulation.

B. Duct liner.

1.2 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 09 91 23 - Interior Painting: Painting insulation jackets.

C. Section 23 05 53 - Identification for HVAC Piping and Equipment.

1.3 REFERENCE STANDARDS

A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

B. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications; 2024.

C. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation; 2025.

D. ASTM C916 - Standard Specification for Adhesives for Duct Thermal Insulation; 2020.

E. ASTM C1071 - Standard Specification for Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material); 2025.

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

G. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

H. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015, with Editorial Revision (2021).

I. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2020.

J. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

C. Manufacturer's Instructions: Indicate installation procedures necessary to ensure acceptable workmanship and that installation standards will be achieved.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section with not less than three years of documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section, with minimum 5 years of experience and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site in original factory packaging, labelled with manufacturer's identification, including product density and thickness.

B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.7 FIELD CONDITIONS

A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.

B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84, UL 723, ASTM E84, or UL 723.

2.2 GLASS FIBER, FLEXIBLE

A. Manufacturer:
1. CertainTeed Corporation: www.certainteed.com/#sle.
2. Johns Manville: www.jm.com/#sle.
3. Owens Corning Corporation; SOFTR Duct Wrap FRK: www.owenscorning.com/en-us/#sle.

B. Insulation: ASTM C553; flexible, noncombustible blanket.
1. K value: .28 at 75 degrees F, when tested in accordance with ASTM C518.
2. Maximum Service Temperature: 250 degrees F.
3. Maximum Service Temperature: 450 degrees F.
4. Maximum Water Vapor Absorption: 5.0 percent by weight.

C. Vapor Barrier Jacket:
1. Kraft paper with glass fiber yarn and bonded to aluminized film.
2. Moisture Vapor Permeability: 0.02 perm inch, when tested in accordance with ASTM E96/E96M.
3. Secure with pressure-sensitive tape.

D. Vapor Barrier Tape:
1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure-sensitive rubber-based adhesive.

2.3 GLASS FIBER, RIGID

A. Manufacturer:
1. CertainTeed Corporation: www.certainteed.com/#sle.
2. Johns Manville: www.jm.com/#sle.

B. Insulation: ASTM C612; rigid, noncombustible.
   1. K Value: .28 at 75 degrees F, when tested in accordance with ASTM C518.
   2. Maximum Service Temperature: 450 degrees F.
   3. Maximum Water Vapor Absorption: 5.0 percent.
   4. Maximum Density: 8.0 pcf.

C. Vapor Barrier Jacket:
   1. Kraft paper with glass fiber yarn and bonded to aluminized film.
   2. Moisture Vapor Permeability: 0.02 perm inch, when tested in accordance with ASTM E96/E96M.
   3. Secure with pressure-sensitive tape.

D. Vapor Barrier Tape:
   1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure-sensitive rubber-based adhesive.

2.4 DUCT LINER

A. Manufacturers:
   1. CertainTeed Corporation: www.certainteed.com/#sle.
   2. Johns Manville; _____: www.jm.com/#sle.

B. Glass Fiber Insulation: Non-corrosive, incombustible glass fiber complying with ASTM C1071; flexible blanket, rigid board, and preformed round liner board; impregnated surface and edges coated with poly vinyl acetate polymer, acrylic polymer, or black composite.
   1. Fungal Resistance: No growth when tested according to ASTM G21.
   2. Apparent Thermal Conductivity: Maximum of 0.31 at 75 degrees F.
   3. Service Temperature: Up to 250 degrees F.
   4. Rated Velocity on Coated Air Side for Air Erosion: 5,000 fpm, minimum.
   5. Minimum Noise Reduction Coefficients:
      a. 1 inch Thickness: 0.45.

C. Adhesive: Waterproof, fire-retardant type, ASTM C916.

D. Liner Fasteners: Galvanized steel, self-adhesive pad with integral head.

PART 3 EXECUTION

3.1 EXAMINATION

A. Test ductwork for design pressure prior to applying insulation materials.

B. Verify that surfaces are clean, foreign material removed, and dry.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Insulated Ducts Conveying Air Below Ambient Temperature:
   1. Provide insulation with vapor barrier jackets.
   2. Finish with tape and vapor barrier jacket.
   3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
   4. Insulate entire system, including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.

C. Insulated Ducts Conveying Air Above Ambient Temperature:
   1. Provide with or without standard vapor barrier jacket.
   2. Insulate fittings and joints. Where service access is required, bevel and seal ends of insulation.

D. External Duct Insulation Application:
   1. Secure insulation with vapor barrier with wires and seal jacket joints with vapor barrier adhesive or tape to match jacket.
   2. Install without sag on underside of duct. Use adhesive or mechanical fasteners where necessary to prevent sagging. Lift duct off trapeze hangers and insert spacers.
   3. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive.
   4. Stop and point insulation around access doors and damper operators to allow operation without disturbing wrapping.

E. Duct and Plenum Liner Application:
   1. Adhere insulation with adhesive for 90 percent coverage.
   2. Secure insulation with mechanical liner fasteners. Refer to SMACNA (DCS) for spacing.
   3. Seal and smooth joints. Seal and coat transverse joints.
   4. Seal liner surface penetrations with adhesive.
   5. Duct dimensions indicated are net inside dimensions required for airflow. Increase duct size to allow for insulation thickness.

3.3 SCHEDULES

A. Exhaust Ducts Within 10 ft of Exterior Openings:
   1. 1" rigid liner.

B. Outside Air Intake Ducts:
   1. 1" rigid in exposed locations.
   2. 2" flexible for concealed.

C. Supply and Return Ducts:
   1. 1" rigid liner for exposed applications.
   2. 2" flexible for concealed.
   3. 2" rigid for mechanical rooms.

D. Ducts within 10 ft of fans:
   1. 1" rigid liner upstream and downstream of fan.

E. Transfer ducts:
   1. 1" rigid liner.

END OF SECTION

SECTION 23 07 19
HVAC PIPING INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Piping insulation.

B. Flexible removable and reusable blanket insulation.

C. Jacketing and accessories.

D. Engineered wall outlet seals and refrigerant piping insulation protection.

1.2 RELATED REQUIREMENTS

A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 07 84 00 - Firestopping.

C. Section 23 23 00 - Refrigerant Piping: Placement of inserts.

1.3 REFERENCE STANDARDS

A. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 2019, with Editorial Revision (2023).

B. ASTM C534/C534M - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form; 2025.

C. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation; 2025.

D. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel; 2008 (Reapproved 2023).

E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

F. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

G. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

H. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

I. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.

J. ASTM G153 - Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials; 2013 (Reapproved 2021).

K. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum 5 years of experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

1.7 FIELD CONDITIONS

A. Maintain ambient conditions required by manufacturers of each product.

B. Maintain temperature before, during, and after installation for minimum of 24 hours.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84, UL 723, ASTM E84, or UL 723.

2.2 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

A. Manufacturers:
1. Armacell LLC: www.armacell.us/#sle.
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Insulation: Preformed flexible elastomeric cellular rubber insulation complying with ASTM C534/C534M Grade 1; use molded tubular material wherever possible.
1. Minimum Service Temperature: Minus 40 degrees F.
2. Maximum Service Temperature: 180 degrees F.
3. Connection: Waterproof vapor barrier adhesive.

C. Elastomeric Foam Adhesive: Air dried, contact adhesive, compatible with insulation.

D. All fittings shall be constructed of like material and sealed per insulation manufacturer recommendations. Fiberglass insulation with fitting covers shall not be accepted.

2.3 JACKETING AND ACCESSORIES

A. PVC Plastic.
1. Manufacturers:
a. Johns Manville Corporation: www.jm.com/#sle.
b. Knauf: www.knaufnorthamerica.com.

2. Jacket: One piece molded type fitting covers and sheet material, off-white color.
   a. Minimum Service Temperature: 0 degrees F.
   b. Maximum Service Temperature: 150 degrees F.
   c. Moisture Vapor Permeability: 0.002 perm inch, maximum, when tested in accordance with ASTM E96/E96M.
   d. Thickness: 10 mil, 0.010 inch.
   e. Connections: Brush on welding adhesive.
3. Covering Adhesive Mastic: Compatible with insulation.

2.4 ENGINEERED WALL OUTLET SEALS AND REFRIGERANT PIPING INSULATION PROTECTION

A. Pipe Penetration Wall Seal: Seals HVAC piping wall penetrations with compression gasket wall mounted rigid plastic outlet cover.
   1. Wall Outlet Size, Stucco and Masonry Applications: 7-1/2 inch wide by 10 inch high.
      a. Elastomeric Sleeve Diameter: 1-11/16 inch.
   2. Wall Outlet Size, Siding and Compact Applications: 6-7/8 inch wide by 3-7/8 inch high.
      a. Elastomeric Sleeve Diameter: 1-11/16 inch.
   3. Outlet Cover Color: Gray.
   4. Water Penetration: Comply with ASTM E331.
   5. Air Leakage: Comply with ASTM E283/E283M.
   6. Air Permeance: Comply with ASTM E2178.

B. Insulation Protection System: Refrigerant piping insulation PVC protective cover.
   1. PVC Insulation Cover Color: White with full-length velcro fastener.
   2. Weatherization and Ultraviolet Exposure Protection: Comply with ASTM G153.
   3. Water/Vapor Permeability: Comply with ASTM E96/E96M.
   4. Flame Spread and Smoke Development Rating of 24/450: Comply with ASTM E84 or UL 723.

PART 3 EXECUTION

3.1 EXAMINATION

A. Test piping for design pressure, liquid tightness, and continuity prior to applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install in accordance with NAIMA National Insulation Standards.

C. Exposed Piping: Locate insulation and cover seams in least visible locations.

D. Insulated Pipes Conveying Fluids Below Ambient Temperature:
   1. Insulate entire system, including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.

E. Inserts and Shields:
   1. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
   2. Insert Configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.

F. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, see Section 07 84 00.

G. Pipe Exposed in Mechanical Equipment and Storage Rooms (less than 10 feet above finished floor): Finish with PVC jacket and fitting covers.

H. Pipe Exposed in Finished Spaces: Finish with PVC jacket and fitting covers.

I. Exterior Applications: Provide vapor barrier jacket. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor barrier cement. Cover with aluminum jacket with seams located on bottom side of horizontal piping. Provide two coats of UV-resistant finish for flexible elastomeric cellular insulation without jacketing.

3.3 SCHEDULE

A. Cooling Systems:
   1. Condensate Drains from Cooling Coils: Flexible Elastomeric Cellular Insulation; All pipe sizes = 1 1/2" thick.
   2. All Refrigerant Piping: Flexible Elastomeric Cellular Insulation; All pipe sizes = 1 1/2" thick.

END OF SECTION

SECTION 23 23 00
REFRIGERANT PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Piping.

B. Moisture and liquid indicators.

C. Valves.

D. Strainers.

E. Check valves.

F. Pressure relief valves.

G. Filter-driers.

H. Solenoid valves.

I. Expansion valves.

J. Receivers.

K. Flexible connections.

L. Engineered wall seals and insulation protection.

1.2 RELATED REQUIREMENTS

A. Section 08 31 00 - Access Doors and Panels.

B. Section 23 07 19 - HVAC Piping Insulation.

1.3 REFERENCE STANDARDS

A. AHRI 495 - Performance Rating of Refrigerant Liquid Receivers; 2005.

B. AHRI 730 (I-P) - Flow Capacity Rating of Suction Line Filters and Suction Line Filter Driers; 2013 (Reapproved 2014).

C. AHRI 760 (I-P) - Performance Rating of Solenoid Valves for Use with Volatile Refrigerants; 2014.

D. ASHRAE Std 15 - Safety Standard for Refrigeration Systems; 2024, with Addendum (2026).

E. ASHRAE Std 34 - Designation and Safety Classification of Refrigerants; 2024, with Addendum (2025).

F. ASME BPVC-VIII-1 - Boiler and Pressure Vessel Code, Section VIII, Division 1: Rules for Construction of Pressure Vessels; 2025, with Errata .

G. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings; 2021.

H. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes; 2024.

I. ASME B31.5 - Refrigeration Piping and Heat Transfer Components; 2022.

J. ASME B31.9 - Building Services Piping; 2025.

K. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2022.

L. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2020.

M. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service; 2023.

N. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

O. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

P. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.

Q. AWS A5.8M/A5.8 - Specification for Filler Metals for Brazing and Braze Welding; 2019.

R. IAPMO (UMC) - 2024 Uniform Mechanical Code; 2024.

S. ICC (IMC) - International Mechanical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

T. UL 207 - Standard for Refrigerant-Containing Components and Accessories, Nonelectrical; Current Edition, Including All Revisions.

U. UL 429 - Electrically Operated Valves; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Provide general assembly of specialties, including manufacturers catalogue information. Provide manufacturers catalog data including load capacity.

C. Shop Drawings: Indicate schematic layout of system, including equipment, critical dimensions, and sizes.

D. Design Data: Submit design data indicating pipe sizing. Indicate load carrying capacity of trapeze, multiple pipe, and riser support hangers.

E. Test Reports: Indicate results of leak test, acid test.

F. Manufacturer's Installation Instructions: Indicate support, connection requirements, and isolation for servicing.

G. Project Record Documents: Record exact locations of equipment and refrigeration accessories on record drawings.

H. Maintenance Data: Include instructions for changing cartridges, assembly views, spare parts lists.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum 5 years of documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store piping and specialties in shipping containers with labeling in place.

B. Protect piping and specialties from entry of contaminating material by leaving end caps and plugs in place until installation.

C. Dehydrate and charge components such as piping and receivers, seal prior to shipment, until connected into system.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for valves excluding packing.

1.11 MAINTENANCE MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two refrigerant oil test kits each containing everything required for conducting one test.

1.12 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish two refrigerant filter-dryer cartridges of each type.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Liquid Indicators:
   1. Use line size liquid indicators in main liquid line leaving condenser.
   2. If receiver is provided, install in liquid line leaving receiver.
   3. Use line size on leaving side of liquid solenoid valves.

B. Valves:
   1. Use service valves on suction and discharge of compressors.
   2. Use gauge taps at compressor inlet and outlet.
   3. Use gauge taps at hot gas bypass regulators, inlet and outlet.
   4. Use check valves on compressor discharge.
   5. Use check valves on condenser liquid lines on multiple condenser systems.

C. Refrigerant Charging (Packed Angle) Valve: Use in liquid line between receiver shut-off valve and expansion valve.

D. Strainers:
   1. Use line size strainer upstream of each automatic valve.

2. Where multiple expansion valves with integral strainers are used, use single main liquid line strainer.
3. Use shut-off valve on each side of strainer.

E. Filter-Driers:
1. Use a filter-drier immediately ahead of liquid-line controls, such as thermostatic expansion valves, solenoid valves, and moisture indicators.

F. Solenoid Valves:
1. Use in liquid line of systems operating with single pump-out or pump-down compressor control.
2. Use in liquid line of single or multiple evaporator systems.
3. Use in oil bleeder lines from flooded evaporators to stop flow of oil and refrigerant into the suction line when system shuts down.

2.2 REGULATORY REQUIREMENTS

A. Comply with ASME B31.9 for installation of piping system.

2.3 PIPING

A. Copper Tube: ASTM B280, H58 hard drawn or O60 soft annealed.
1. Fittings: ASME B16.22 wrought copper.
2. Joints: Braze, AWS A5.8M/A5.8 BCuP silver/phosphorus/copper alloy.
3. Push-to-Connect Fittings: Complying with UL 207.
4. Mechanical Press Fittings: UL 207 listed, ICC (IMC) and IAPMO (UMC) approved, with HNBR seals.

B. Copper Tube to 7/8-inch OD: ASTM B88 (ASTM B88M), Type K (A), annealed.
1. Fittings: ASME B16.26 cast copper.
2. Joints: Flared.

C. Pipe Supports and Anchors:
1. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch: Malleable iron adjustable swivel, split ring.
2. Vertical Support: Steel riser clamp.
3. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.
4. Hanger Rods: Mild steel threaded both ends, threaded one end, or continuous threaded.

2.4 MOISTURE AND LIQUID INDICATORS

A. Indicators: Single port type, UL listed, with copper or brass body, flared or soldered ends, sight glass, color coded paper moisture indicator with removable element cartridge and plastic cap; for maximum temperature of 200 degrees F and maximum working pressure of 500 psi.

2.5 VALVES

A. Diaphragm Packless Valves:
1. UL listed, globe or angle pattern, forged brass body and bonnet, phosphor bronze and stainless steel diaphragms, rising stem and handwheel, stainless steel spring, nylon seat disc, soldered or flared ends, with positive backseating; for maximum working pressure of 500 psi and maximum temperature of 275 degrees F.

B. Ball Valves:
1. Two piece bolted forged brass body with teflon ball seals and copper tube extensions, brass bonnet and seal cap, chrome plated ball, stem with neoprene ring stem seals; for maximum working pressure of 500 psi and maximum temperature of 300 degrees F.

C. Service Valves:
1. Forged brass body with copper stubs, brass caps, removable valve core, integral ball check valve, flared or soldered ends, for maximum pressure of 500 psi.

2.6 STRAINERS

A. Straight Line or Angle Line Type:
1. Brass or steel shell, steel cap and flange, and replaceable cartridge, with screen of stainless steel wire or monel reinforced with brass; for maximum working pressure of 430 psi.

2.7 CHECK VALVES

A. Globe Type:
1. Cast bronze or forged brass body, forged brass cap with neoprene seal, brass guide and disc holder, phosphor-bronze or stainless steel spring, teflon seat disc; for maximum temperature of 300 degrees F and maximum working pressure of 500 psi.

B. Straight Through Type:
1. Brass body and disc, phosphor-bronze or stainless steel spring, neoprene seat; for maximum working pressure of 500 psi and maximum temperature of 250 degrees F.

2.8 PRESSURE RELIEF VALVES

A. Straight Through or Angle Type: Brass body and disc, neoprene seat, factory sealed and stamped with ASME UV and National Board Certification NB, selected to ASHRAE Std 15, with standard setting of 450 psi.

2.9 FILTER-DRIERS

A. Performance:
1. Design Working Pressure: 500 psi, minimum.

B. Cores: Molded or loose-fill molecular sieve desiccant compatible with refrigerant, activated alumina, activated charcoal, and filtration to 40 microns, with secondary filtration to 20 microns; of construction that will not pass into refrigerant lines.

C. Construction: UL listed.
1. Connections: As specified for applicable pipe type.

2.10 SOLENOID VALVES

A. Valve: AHRI 760 (I-P), pilot operated, copper, brass or steel body and internal parts, synthetic seat, stainless steel stem and plunger assembly (permitting manual operation in case of coil failure), integral strainer, with flared, soldered, or threaded ends; for maximum working pressure of 500 psi.

2.11 EXPANSION VALVES

A. Angle or Straight Through Type: AHRI 760 (I-P); design suitable for refrigerant, brass body, internal or external equalizer, bleed hole, adjustable superheat setting, replaceable inlet strainer, with nonreplaceable capillary tube and remote sensing bulb and remote bulb well.

B. Selection: Evaluate refrigerant pressure drop through system to determine available pressure drop across valve. Select valve for maximum load at design operating pressure and minimum 10 degrees F superheat. Select to avoid being undersized at full load and excessively oversized at part load.

2.12 RECEIVERS

A. Internal Diameter 6 inch and Smaller:
1. AHRI 495, UL listed, steel, brazed; 400 psi maximum pressure rating, with tappings for inlet, outlet, and pressure relief valve.

B. Internal Diameter Over 6 inch:

1. AHRI 495, welded steel, tested and stamped in accordance with ASME BPVC-VIII-1; 400 psi with tappings for liquid inlet and outlet valves, pressure relief valve, and magnetic liquid level indicator.

2.13 FLEXIBLE CONNECTORS

A. Corrugated stainless steel hose with single layer of stainless steel exterior braiding, minimum 9 inches long with copper tube ends; for maximum working pressure of 500 psi.

2.14 ENGINEERED WALL SEALS AND INSULATION PROTECTION

A. Pipe Penetration Wall Seal: Seals HVAC piping wall penetrations with compression gasket wall mounted rigid plastic outlet cover.
   1. Wall Outlet Size, Stucco and Masonry Applications: 7-1/2 inch wide by 10 inch high.
      a. Elastomeric Sleeve Diameter: 1-11/16 inch.
   2. Wall Outlet Size, Siding and Compact Applications: 6-7/8 inch wide by 3-7/8 inch high.
      a. Elastomeric Sleeve Diameter: 1-11/16 inch.
   3. Outlet Cover Color: Gray.
   4. Water Penetration: Comply with ASTM E331.
   5. Air Leakage: Comply with ASTM E283/E283M.
   6. Air Permeance: Comply with ASTM E2178.

PART 3 EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.2 INSTALLATION

A. Install refrigeration specialties in accordance with manufacturer's instructions.

B. Route piping in orderly manner, with plumbing parallel to building structure, and maintain gradient.

C. Install piping to conserve building space and avoid interference with use of space.

D. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

E. Pipe Hangers and Supports:
   1. Install in accordance with ASME B31.5.
   2. Support horizontal piping as indicated.
   3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
   4. Place hangers within 12 inches of each horizontal elbow.

F. Arrange piping to return oil to compressor. Provide traps and loops in piping, and provide double risers as required. Slope horizontal piping 0.40 percent in direction of flow.

G. Provide clearance for installation of insulation and access to valves and fittings.

H. Provide access to concealed valves and fittings. Coordinate size and location of access doors with Section 08 31 00.

I. Fully charge completed system with refrigerant after testing.

3.3 FIELD QUALITY CONTROL

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

B. Test refrigeration system piping following requirements of manufacturer of connected equipment, in accordance with procedures outlined in ASME B31.5 and meeting minimum pressures provided therein, or manufacturer's documentation, whichever is greater.

C. Test and repair to no leakage.

3.4 SCHEDULES

A. Hanger Spacing for Copper Tubing.
   1. 1/2 inch, 5/8 inch, and 7/8 inch OD: Maximum span, 5 feet; minimum rod size, 1/4 inch.
   2. 1-1/8 inch OD: Maximum span, 6 feet; minimum rod size, 1/4 inch.
   3. 1-3/8 inch OD: Maximum span, 7 feet; minimum rod size, 3/8 inch.
   4. 1-5/8 inch OD: Maximum span, 8 feet; minimum rod size, 3/8 inch.
   5. 2-1/8 inch OD: Maximum span, 8 feet; minimum rod size, 3/8 inch.

END OF SECTION

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SECTION 23 31 00
HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Metal ducts.

B. Flexible ducts.

C. Air plenums and casings.

1.2 RELATED REQUIREMENTS

A. Section 07 84 00 - Firestopping.

B. Section 23 07 13 - Duct Insulation: External insulation and duct liner.

C. Section 23 33 00 - Air Duct Accessories.

1.3 REFERENCE STANDARDS

A. ASHRAE (FUND) - ASHRAE Handbook - Fundamentals; Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASHRAE Std 126 - Method of Testing HVAC Air Ducts; 2020.

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

E. ASTM D7803 - Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Powder Coating; 2012 (Reapproved 2019).

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

G. ICC-ES AC01 - Acceptance Criteria for Expansion Anchors in Masonry Elements; 2018, with Editorial Revision (2020).

H. ICC-ES AC106 - Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in Masonry; 2018, with Editorial Revision (2020).

I. ICC-ES AC193 - Acceptance Criteria for Mechanical Anchors in Concrete Elements; 2017, with Editorial Revision (2020).

J. ICC-ES AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements; 2023.

K. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2024.

L. NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems; 2024.

M. NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations; 2024.

N. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2020.

O. SMACNA (KVS) - Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines; 2001.

P. SMACNA (LEAK) - HVAC Air Duct Leakage Test Manual; 2012.

1.4 SUBMITTALS

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

B. Product Data: Provide data for duct materials.

C. Shop Drawings: Indicate duct fittings, particulars such as gages, sizes, welds, and configuration prior to start of work for all modifications / systems. Contractor will be responsible for any rework of shop drawings due to field conditions prior to approval of drawings. Contractor shall field verify field conditions prior to submitting shop drawings.

D. Samples: Submit RAL color charts for powder coat selection and verification prior to fabrication.

E. Test Reports: Indicate pressure tests performed. Include date, section tested, test pressure, and leakage rate per appropriate seal class, following SMACNA (LEAK).

F. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.5 CLOSEOUT SUBMITTALS

A. See Section 01 70 00 - Execution and Closeout Requirements for closeout procedures.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience, and approved by manufacturer.

B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum five years of documented experience.

C. Maintain one copy of each document on site.

1.7 FIELD CONDITIONS

A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.

B. Maintain temperatures within acceptable range during and after installation of duct sealants.

C. Provide offsets as required for installation of ductwork due to field conditions.

1.8 WARRANTY

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

1.9 FIELD MEASUREMENTS

A. Verify field measurements of all duct installations prior to fabrication.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Provide UL Class 1 ductwork, fittings, hangers, supports, and appurtenances in accordance with NFPA 90A and SMACNA (DCS) guidelines unless stated otherwise.

B. Provide metal duct unless otherwise indicated.

C. Duct Sealing and Leakage in accordance with Static Pressure Class:
   1. Duct Pressure Class and Material for Common Mechanical Ventilation Applications:
      a. Supply Air: 4 in-wc pressure class, galvanized steel.
      b. Outside Air Intake: 4 in-wc pressure class, galvanized steel.
      c. Return and Relief Air: 4 in-wc pressure class, galvanized steel.
      d. General Exhaust Air: 4 in-wc pressure class, galvanized steel.
   2. Medium and High Pressure Service: Above 3 in-wc:
      a. Seal: Class A, apply sealing of transverse joints, longitudinal seams, and duct wall penetrations.
      b. Leakage:
         1) Rectangular: Class 6 or 6 cfm/100 sq ft.
         2) Round: Class 3 or 3 cfm/100 sq ft.

D. Duct Fabrication Requirements:
   1. Duct and Fitting Fabrication and Support: SMACNA (DCS) including specifics for continuously welded round and oval duct fittings.
   2. No variation of duct configuration or size permitted except by written permission. Size round duct installed in place of rectangular ducts in accordance with ASHRAE (FUND) Handbook - Fundamentals.
   3. Use reinforced and sealed sheet-metal materials at recommended gauges for indicated operating pressures or pressure class.
   4. Construct tees, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide airfoil turning vanes of perforated metal with glass fiber insulation.
   5. Provide turning vanes of perforated metal with glass fiber insulation when acoustical lining is indicated.
   6. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
   7. Provide turning vanes of perforated metal with glass fiber insulation when an acoustical lining is required.
   8. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side; seal to louver frame and duct.

2.2 PAINTED FINISHES:

A. Where exposed metal ducts within finished spaces are indicated to be finished, all exposed portions shall be manufactured and treated as indicated:
   1. Field Painted Finishes:
      a. Base metal shall be galvannealed steel to promote paint adhesion.
      b. Ducts and associated fittings shall be cleaned at time of installation to remove dirt and oils that would inhibit proper adhesion.
      c. Field painting to be provided by other trades.
   2. Shop Powder Coated Finishes:
      a. Base metal shall be galvanized steel to promote adhesion, with flanged construction for field assembly, length of 10 feet maximum.
      b. Surfaces shall be prepared in accordance with ASTM D7803, including but not limited to pre-treatment cleaning, application of corrosion inhibitors, and pre-bake.
      c. Powder coating to be applied at 3 - 6 mils thick prior to baking for proper cure.
      d. Color: As selected by Architect/Engineer from full RAL spectrum.

2.3 METAL DUCTS

A. Material Requirements:

1. Galvanized Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.
2. Galvannealed Steel: Hot-dipped galvannealed steel sheet, ASTM A653/A653M FS Type B, with A40/ZF120 coating.

B. Rectangular Metal Duct:
1. Rectangular Single Wall: Rectangular, longitudinal lock seam duct with galvanized steel wall.

C. Round Metal Ducts:
1. Round Single Wall Duct: Round lock seam duct with galvanized steel outer wall.
2. Round Connection System: Interlocking duct connection system in accordance with SMACNA (DCS).

D. Round Spiral Duct:
1. Round spiral lock seam duct with galvanized steel outer wall.

E. Connectors, Fittings, Sealants, and Miscellaneous:
1. Fittings: Manufacture with solid inner wall of perforated galvanized steel.
2. Transverse Duct Connection System: SMACNA "E" rated rigid class connection, interlocking angle and duct edge connection system with sealant, gasket, cleats, and corner clips in accordance with SMACNA (DCS).
3. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
   a. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
   b. VOC Content: Not more than 250 g/L, excluding water.
   c. Surface Burning Characteristics: Flame spread index of zero and smoke developed index of zero, when tested in accordance with ASTM E84.
   d. For Use with Flexible Ducts: UL labeled.
4. Gasket Tape:
   a. Provide butyl rubber gasket tape for a flexible seal between transfer duct connector (TDC), transverse duct flange (TDF), applied flange connections, and angle ring connections.
5. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.
6. Hanger Fasteners: Attach hangers to structure using appropriate fasteners as follows:
   a. Concrete Wedge Expansion Anchors: Complying with ICC-ES AC193.
   b. Masonry Wedge Expansion Anchors: Complying with ICC-ES AC01.
   c. Concrete Screw Type Anchors: Complying with ICC-ES AC193.
   d. Masonry Screw Type Anchors: Complying with ICC-ES AC106.
   e. Concrete Adhesive Type Anchors: Complying with ICC-ES AC308.

2.4 AIR PLENUMS AND CASINGS

A. Fabricate in accordance with SMACNA (DCS) for indicated operating pressures indicated.

B. Minimum Fabrication Requirements:
1. Fabricate acoustic plenum or casing with reinforcing turned inward.
2. Provide 16-gauge, 0.059-inch sheet steel back facing and 22-gauge, 0.029-inch perforated sheet steel front facing with 3/32 inch diameter holes on 5/32 inch centers.
3. Construct panels 3 inches thick, packed with 4.5 pcf minimum glass fiber insulation media, on inverted channel of 16-gauge, 0.059-inch sheet steel.
4. Mount floor-mounted plenum or casings on 4-inch high concrete curbs. At floor, rivet panels on 8-inch centers to angles. Where floors are acoustically insulated, provide liner of galvanized 18-gauge, 0.052-inch expanded metal mesh supported at 12-inch centers, turned up 12 inches at sides with sheet metal shields.

C. Access Doors:
1. Install hinged access doors where indicated or required for access to equipment for cleaning and inspection.
2. Reinforce door frames with steel angles tied to horizontal and vertical plenum supporting angles.

3. Provide clear wire glass observation ports, minimum 6 by 6 inch size.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install products following the manufacturer's instructions.

B. During construction, provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering the ductwork system.

C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

D. Duct sizes indicated are precise inside dimensions. For lined ducts, maintain sizes inside lining.

E. Provide openings in ductwork as indicated to accommodate thermometers and controllers. Provide pilot tube openings as indicated for testing of systems, complete with metal can with spring device or screw to insure against air leakage. For openings, insulate ductwork and install insulation material inside a metal ring.

F. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

G. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with a crimp in the direction of airflow.

H. Use double nuts and lock washers on threaded rod supports.

I. Connect terminal units to supply ducts directly or with one foot maximum length of flexible duct. Do not use flexible duct to change direction.

J. Connect diffusers or light troffer boots to low-pressure ducts directly or with 5 feet maximum length of flexible duct held in place with strap or clamp.

K. Set plenum doors at 6 to 12 inches above floor. Arrange door swings so that fan static pressure holds door in closed position.

L. At exterior wall louvers, seal duct to louver frameand transition to louver frame size.

M. Duct Insulation: Provide duct insulation. See Section 23 07 13.

3.2 CLEANING

A. See Section 01 74 19 - Construction Waste Management and Disposal for additional requirements.

B. Clean all modified existing and new duct systems with high-power vacuum machines. Protect equipment that could be harmed by excessive dirt with filters or bypass during cleaning. Provide adequate access to the ductwork for cleaning purposes.

END OF SECTION

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SECTION 23 33 00
AIR DUCT ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Backdraft dampers - metal.

B. Duct test holes.

C. Fire dampers.

D. Volume control dampers.

1.2 RELATED REQUIREMENTS

A. Section 23 31 00 - HVAC Ducts and Casings.

1.3 REFERENCE STANDARDS

A. ICC (IMC)-2015 - International Mechanical Code; 2015.

B. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2024.

C. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2020.

D. UL 33 - Safety Heat Responsive Links for Fire-Protection Service; Current Edition, Including All Revisions.

E. UL 555 - Standard for Fire Dampers; Current Edition, Including All Revisions.

F. UL 555S - Standard for Smoke Dampers; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Provide for shop-fabricated assemblies including volume control dampers, duct access doors, duct test holes, and hardware used. Include electrical characteristics and connection requirements.

C. Shop Drawings: Indicate for shop fabricated assemblies including volume control dampers, duct access doors, and duct test holes.

D. Manufacturer's Installation Instructions: Provide instructions for fire dampers.

E. Project Record Drawings: Record actual locations of access doors and test holes.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements for additional provisions.
   2. Extra Fusible Links: One of each type and size.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit for Fire Dampers.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

B. Dampers tested, rated and labeled in accordance with the latest UL requirements.

C. Damper pressure drop ratings based on tests and procedures performed in accordance with AMCA 500.

D. Maintain one copy of each document on site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect dampers from damage to operating linkages and blades.

B. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.

C. Storage: Store materials in a dry area indoor, protected from damage.

D. Handling: Handle and lift dampers in accordance with manufacturer's instructions. Protect materials and finishes during handling and installation to prevent damage.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work where appropriate with building control Work.

PART 2 PRODUCTS

2.1 BACKDRAFT DAMPERS - METAL

A. Manufacturers:
1. Louvers & Dampers, Inc, a brand of Mestek, Inc: www.louvers-dampers.com/#sle.
2. Nailor Industries, Inc: www.nailor.com/#sle.

B. Multi-Blade, Parallel Action Gravity Balanced Backdraft Dampers: Galvanized steel, with center pivoted blades of maximum 6 inch width, with felt or flexible vinyl sealed edges, linked together in rattle-free manner with 90 degree stop, steel ball bearings, and plated steel pivot pin; adjustment device to permit setting for varying differential static pressure.

2.2 DUCT TEST HOLES

A. Temporary Test Holes: Cut or drill in ducts as required. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.

B. Permanent Test Holes: Factory fabricated, air tight flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

2.3 FIRE DAMPERS

A. Manufacturers:
1. Nailor Industries, Inc: www.nailor.com/#sle.

2. PCI Industries, Inc; Pottorff Brand : www.portorff.com.
3. Ruskin Company, a brand of Johnson Controls: www.ruskin.com/#sle.

B. Curtain Type Dampers: Galvanized steel with interlocking blades. Provide stainless steel closure springs and latches for horizontal installations. Configure with blades out of air stream except for 1-inch pressure-class ducts up to 12 inches in height.

C. Fusible Links: UL 33, separate at 160 degrees F with adjustable link straps for combination fire/balancing dampers.

2.4 VOLUME CONTROL DAMPERS

A. Single Blade Dampers:
1. Fabricate for duct sizes up to 6 by 30 inch.
2. Blade: 24 gauge, 0.0239 inch, minimum.

B. End Bearings: Except in round ducts 12 inches and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon, thermoplastic elastomer, or sintered bronze bearings.

PART 3 EXECUTION

3.1 PREPARATION

A. Verify that electric power is available and of the correct characteristics.

3.2 INSTALLATION

A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA (DCS). See Section 23 31 00 for duct construction and pressure class.

B. Provide backdraft dampers on exhaust fans or exhaust ducts nearest to outside and where indicated.

C. Provide duct test holes where indicated and required for testing and balancing purposes.

D. Provide fire dampers at locations indicated, where ducts and outlets pass through fire-rated components, and where required by authorities having jurisdiction. Install with required perimeter mounting angles, sleeves, breakaway duct connections, corrosion resistant springs, bearings, bushings and hinges.

E. Demonstrate re-setting of fire dampers to Owner's representative.

F. Provide balancing dampers at points on supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing. Install minimum two duct widths from duct take-off.

G. Provide balancing dampers on duct take-off to diffusers, grilles, and registers, regardless of whether dampers are specified as part of the diffuser, grille, or register assembly.

END OF SECTION

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SECTION 23 34 23
HVAC POWER VENTILATORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wall exhausters.

1.2 RELATED REQUIREMENTS

A. Section 23 31 00 - HVAC Ducts and Casings.

B. Section 23 33 00 - Air Duct Accessories: Backdraft dampers.

1.3 REFERENCE STANDARDS

A. AMCA (DIR) - (Directory of) Products Licensed Under AMCA International Certified Ratings Program; 2015.

B. AMCA 99 - Standards Handbook; 2025.

C. AMCA 204 - Balance Quality and Vibration Levels for Fans; 2020.

D. AMCA 210 - Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating; 2025.

E. AMCA 300 - Reverberation Room Methods of Sound Testing of Fans; 2024.

F. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data; 2022.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate fan roof curbs and service utilities installation according to fan size.

B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

C. Sequencing: Ensure that utility connections are completed in an orderly and expeditious manner.

1.5 SUBMITTALS

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

B. Product Data: Provide data on fans and accessories, including fan curves with specified operating point plotted, power, rpm, sound power levels at rated capacity, and electrical characteristics and connection requirements.

C. Manufacturer's Instructions: Indicate installation instructions.

D. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.7 FIELD CONDITIONS

A. Request Owner permission to use permanent ventilator(s) for ventilation during construction.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Greenheck Fan Corporation: www.greenheck.com/#sle.

B. Loren Cook Company: www.lorencook.com/#sle.

2.2 POWER VENTILATORS - GENERAL

A. Static and Dynamically Balanced: Comply with AMCA 204.

B. Performance Ratings: Comply with AMCA 210, bearing certified rating seal.

C. Sound Ratings: Comply with AMCA 301, tested to AMCA 300, bearing certified sound ratings seal.

D. Fabrication: Comply with AMCA 99.

E. Electrical Components: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

2.3 WALL EXHAUSTERS

A. Fan Unit: Direct driven with spun aluminum housing; resiliently mounted motor; 1/2 inch mesh, 0.062 inch thick aluminum wire bird screen.

B. Disconnect Switch: Factory wired, nonfusible, in housing for thermal overload protected motor, and wall mounted multiple speed switch.

C. Backdraft Damper: Motor actuated, aluminum multiple blade construction, felt edged with offset hinge pin, nylon bearings, blades linked, and line voltage motor drive, power open, spring return.

D. Sheaves: For V-belt drives, provide cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheaves selected so required rpm can be reached with sheaves set at mid-position; fan shaft with self-aligning prelubricated ball bearings.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install backdraft dampers on inlet to roof and wall exhausters.

END OF SECTION

SECTION 23 37 00
AIR OUTLETS AND INLETS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Diffusers

B. Rectangular ceiling diffusers.

C. Registers/grilles:
   1. Ceiling-mounted, egg crate exhaust and return register/grilles.

D. Louvers

1.2 RELATED REQUIREMENTS

A. Section 09 91 23 - Interior Painting: Painting of ducts visible behind outlets and inlets.

1.3 REFERENCE STANDARDS

A. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; 2023.

B. ASHRAE Std 70 - Method of Testing the Performance of Air Outlets and Air Inlets; 2023.

1.4 SUBMITTALS

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

B. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

C. Samples: Submit two physical color cards illustrating range of colors available for each finished surface of each product specified for selection purposes.

D. Project Record Documents: Record actual locations of air outlets and inlets.

E. Test Reports: Rating of air outlet and inlet performance.

F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.

B. Test and rate louver performance in accordance with AMCA 500-L.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Price Industries: www.price-hvac.com/#sle.

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

2.2 RECTANGULAR CEILING DIFFUSERS

A. Type: Provide square and rectangular, adjustable pattern diffuser to discharge air in 360 degree pattern with sectorizing baffles where indicated.

B. Connections: Round.

C. Frame: Provide surface mount, snap-in, inverted T-bar, and spline type. In plaster ceilings, provide plaster frame and ceiling frame.

D. Fabrication: Steel with baked enamel finish.

E. Color: As selected by Architect from manufacturer's standard range.

F. Accessories: Provide butterfly volume control damper; removable core and gaskets for surface mounted diffusers with damper adjustable from diffuser face.

2.3 CEILING SUPPLY REGISTERS/GRILLES

A. Type: Streamlined and individually adjustable curved blades to discharge air along face of grille, double deflection.

B. Frame: 1-1/4 inch margin with countersunk screw mounting and gasket.

C. Fabrication: Steel with 20 gage minimum frames and 22 gage minimum blades, steel and aluminum with 20 gage minimum frame, or aluminum extrusions, with factory off-white enamel finish.

D. Damper: Integral, gang-operated, opposed blade type with removable key operator, operable from face.

E. Gymnasiums: Furnish front pivoted or welded in place blades, securely fastened to be immobile.

2.4 CEILING EGG CRATE EXHAUST AND RETURN GRILLES

A. Type: Egg crate style face consisting of 1/2 by 1/2 by 1/2 inch grid core.

B. Fabrication: Grid core consists of aluminum with mill aluminum finish.

C. Frame: 1-1/4 inch margin with countersunk screw mounting.

D. Frame: Channel lay-in frame for suspended grid ceilings.

E. Accessories: Provide 45 degree angled eggcrate or other similar provisions for visual blocking such as angled louver, 90 degree duct elbow, etc..

2.5 LOUVERS

A. Type: 4 inch deep frame with blades on 45 degree slope with center baffle and return bend, heavy channel frame, 1/2 inch square mesh screen over intake or exhaust end.

B. Color: To be selected by Architect from manufacturer's standard range.

C. Mounting: Furnish with interior flat flange for installation.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Check location of outlets and inlets and make necessary adjustments in position to comply with architectural features, symmetry, and lighting arrangement.

C. Install diffusers to ductwork with air tight connection.

D. Provide balancing dampers on duct take-off to diffusers and grilles and registers, despite whether dampers are specified as part of diffuser, or grille and register assembly.

E. Paint ductwork visible behind air outlets and inlets matte black, see Section 09 91 23.

3.2 CLOSEOUT ACTIVITIES

A. Demonstrate operational system to Owner's representative.

B. Instruct Owner's representative to maintain system and use occupant controls or interfaces, as required.

3.3 PROTECTION

A. Protect installed products until completion of project.

B. Replace, repair, or touch-up damaged products before Substantial Completion.

END OF SECTION

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SECTION 23 81 26.13
SMALL-CAPACITY SPLIT-SYSTEM AIR CONDITIONERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Forced air furnaces.

B. Air cooled condensing units.

C. Indoor air handling (fan and coil) units for ducted systems.

D. Controls.

1.2 RELATED REQUIREMENTS

A. Section 23 31 00 - HVAC Ducts and Casings.

1.3 REFERENCE STANDARDS

A. AHRI 210/240 - Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment; 2026.

B. AHRI 520 - Performance Rating of Positive Displacement Condensing Units; 2004.

C. ASHRAE Std 15 - Safety Standard for Refrigeration Systems; 2024, with Addendum (2026).

D. ASHRAE Std 23 - Methods for Performance Testing Positive Displacement Refrigerant Compressors and Compressor Units; 2022.

E. NEMA MG 00001 - Motors and Generators; 2024.

F. NFPA 54 - National Fuel Gas Code; 2024.

G. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2024.

H. NFPA 90B - Standard for the Installation of Warm Air Heating and Air-Conditioning Systems; 2024.

I. NFPA 211 - Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances; 2024.

J. UL 207 - Standard for Refrigerant-Containing Components and Accessories, Nonelectrical; Current Edition, Including All Revisions.

1.4 SUBMITTALS

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

B. Product Data: Provide rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.

C. Shop Drawings: Indicate assembly, required clearances, and location and size of field connections.

D. Design Data: Indicate refrigerant pipe sizing.

E. Manufacturer's Instructions: Indicate rigging, assembly, and installation instructions.

F. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listing.

G. Warranty: Submit manufacturers warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.

H. Project Record Documents: Record actual locations of components and connections.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Filters: One for each unit.
   3. Extra Pilot Thermocouples: One for each unit.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years of experience and approved by manufacturer.

1.6 WARRANTY

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

B. Provide three year manufacturers warranty for solid state ignition modules.

C. Provide five year manufacturers warranty for heat exchangers.

PART 2 PRODUCTS

2.1 SYSTEM DESIGN

A. Split-System Heating and Cooling Units: Self-contained, packaged, matched factory-engineered and assembled, pre-wired indoor and outdoor units; UL listed.
   1. Heating: Natural gas fired.
   2. Cooling: Outdoor electric condensing unit with evaporator coil in central ducted indoor unit.
   3. Provide refrigerant lines internal to units and between indoor and outdoor units, factory cleaned, dried, pressurized and sealed, with insulated suction line.

B. Performance Requirements: See Drawings for additional requirements.

2.2 INDOOR AIR HANDLING UNITS FOR DUCTED SYSTEMS

A. Indoor Units: Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heating and cooling element(s), controls, and accessories; wired for single power connection with control transformer.
   1. Air Flow Configuration: Upflow.
   2. Cabinet: Steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner.

B. Supply Fan: Centrifugal type rubber mounted with direct or belt drive with adjustable variable pitch motor pulley.
   1. Motor: NEMA MG 1; 1750 rpm single speed, permanently lubricated, hinge mounted.

C. Air Filters: 1 inch thick urethane, washable type arranged for easy replacement.

D. Evaporator Coils: Copper tube aluminum fin assembly, galvanized or polymer drain pan sloped in all directions to drain, drain connection, refrigerant piping connections, restricted distributor or thermostatic expansion valve.
   1. Construction and Ratings: In accordance with AHRI 210/240 and UL 207.

2. Manufacturers: System manufacturer.

2.3 OUTDOOR UNITS

A. Outdoor Units: Self-contained, packaged, pre-wired unit consisting of cabinet, with compressor and condenser.
   1. Refrigerant: R-454B.
   2. Construction and Ratings: In accordance with AHRI 210/240 with testing in accordance with ASHRAE Std 23 and UL 207.

B. Air Cooled Condenser: Aluminum fin and copper tube coil, AHRI 520 with direct drive axial propeller fan resiliently mounted, galvanized fan guard.
   1. Condenser Fans: Direct-drive propeller type.
   2. Condenser Fan Motor: Enclosed, 1-phase type, permanently lubricated.

C. Coil: Air-cooled, aluminum fins bonded to copper tubes.

D. Accessories: Filter drier, high-pressure switch (manual reset), low pressure switch (automatic reset), service valves and gauge ports, thermometer well (in liquid line).
   1. Provide thermostatic expansion valves.

E. Operating Controls:
   1. Control by room thermostat to maintain room temperature setting.

2.4 GAS FURNACE COMPONENTS

A. Heat Exchanger: Stainless steel ceramic coated clamshell type welded construction.

B. Burner: Atmospheric type with adjustable combustion air supply,
   1. Gas valve, modulating provides 100 percent safety gas shut-off; 24 volt combining pressure regulation, safety pilot, manual set (On-Off), pilot filtration, automatic electric valve.
   2. Combustion air damper with synchronous spring return damper motor.
   3. Non-corrosive combustion air blower with permanently lubricated motor.

C. Burner Safety Controls:
   1. Thermocouple Sensor: Prevents opening of gas valve until pilot flame is proven and stops gas flow on ignition failure.
   2. Flame Rollout Switch: Installed on burner box and prevents operation.
   3. Vent Safety Shutoff Sensor: Temperature sensor installed on draft hood and prevents operation, manual reset.
   4. Limit Control: Fixed stop at maximum permissible setting, de-energizes burner on excessive bonnet temperature, automatic resets.

D. Operating Controls:
   1. Cycle burner by room thermostat to maintain room temperature setting.
   2. Supply fan energized from bonnet temperature independent of burner controls, with adjustable timed off delay and fixed timed on delay, with manual switch for continuous fan operation.

E. Flue Termination: Standard wall kit.

2.5 ACCESSORY EQUIPMENT

A. Room Thermostat: Wall-mounted, electric solid state microcomputer based room thermostat with remote sensor to maintain temperature setting; low-voltage; with following features:
   1. System selector switch (heat-off-cool) and fan control switch (auto-on).
   2. Automatic switching from heating to cooling.
   3. Preferential rate control to minimize overshoot and deviation from setpoint.
   4. Set-up for four separate temperatures per day.
   5. Instant override of setpoint for continuous or timed period from one hour to 31 days.
   6. Short cycle protection.

7. Programming based on weekdays, Saturday and Sunday.
8. Selection features including degree F or degree C display, 12 or 24 hour clock, keyboard disable, remote sensor, fan on-auto.
9. Battery replacement without program loss.
10. Thermostat Display:
    a. Time of day.
    b. Actual room temperature.
    c. Programmed temperature.
    d. Programmed time.
    e. Duration of timed override.
    f. Day of week.
    g. System Mode Indication: Heating, Cooling, Fan Auto, Off, and On, Auto or On, Off.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrates are ready for installation of units and openings are as indicated on shop drawings.

B. Verify that proper power supply is available and in correct location.

C. Verify that proper fuel supply is available for connection.

3.2 INSTALLATION

A. Install in accordance with NFPA 90A and NFPA 90B.

B. Install gas fired furnaces in accordance with NFPA 54.

C. Provide vent connections in accordance with NFPA 211.

D. Install refrigeration systems in accordance with ASHRAE Std 15.

E. Pipe drain from cooling coils and humidifiers to nearest floor drain.

END OF SECTION

SECTION 26 05 00
COMMON WORK RESULTS FOR ELECTRICAL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. General requirements applicable to all components and systems included in Electric Work Prime Contract

B. Products Installed but Not Furnished Under This Section

C. Make all electrical connections to equipment shown on Drawings and furnished by other Prime Contractors. Obtain approved wiring diagrams and location drawings for roughing in and final connections from Prime Contractor furnishing equipment. Provide disconnect switches, push button stations, and similar components, required but not furnished with equipment as shown on Drawings.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements:

B. Section 01 70 00 - Execution and Closeout Requirements: Additional requirements for alterations work.

C. Section 01 78 00 - Closeout Submittals: Project record documents.

1.3 REFERENCES

A. AIA American Institute of Architects

B. AISC American Institute of Steel Construction

C. ANSI American National Standards Institute

D. ASTM American Society of Testing Materials

E. IEEE Institute of Electric and Electronic Engineers

F. IES Illuminating Engineering Society

G. NBFU National Board of Fire Underwriters

H. NEC National Electric Code

I. NEMA National Electrical Manufacturers' Association

J. NETA International Electrical Testing Association

K. NFPA National Fire Protection Association

L. UL Underwriters' Laboratories, Inc.

1.4 SYSTEM DESCRIPTIONS

A. Design Requirements - Provide complete systems, properly tested, balanced, and ready for operation including necessary details, items and accessories although not expressly shown or specified, including (but not limited to):
   1. All wiring and conduit for work specified in Project Manual and shown on Drawings.
   2. All electrical devices and equipment for work specified in Project Manual and shown on Drawings.

B. Systems included, but not limited to:
   1. Electrical Distribution
   2. Electrical Connections
   3. Electric Layouts: Arrange all panels, disconnect switches, enclosed breakers, equipment, raceways, and similar components neatly, orderly and symmetrically. Provide 3/4-inch plywood backboards for all surface mounted panels, disconnect switches, enclosed breakers, and similar equipment. Arrangements shown on Drawings are diagrammatic only; provide and adjust raceways, wiring, and other components as required.
   4. Power Interruptions and Scheduled Outages: Coordinate scheduling of all power interruptions and outages with Owner. EC shall confirm with Owner prior to interruption of power, which building systems are considered critical and must remain operational during the interruption. If a scheduled power outage is to extend beyond one standard workday, EC shall provide temporary power to operate critical building systems (including, but not limited to fire alarm system, security system, building access control system, and building energy management control system).

1.5 QUALITY ASSURANCE

A. Codes and Standards: Comply with all applicable Federal, State and Local Building and Electrical Codes, Laws, Ordinances, and Regulations, and comply with all applicable NFPA, National Electrical Code and Utility Company requirements and regulations. Provide Underwriter's Laboratory Seal on all materials.

B. Permits and Inspections: Obtain all approvals, tests, and inspections required by Architect, Engineer, Local Electrical Inspector, agent or agency specified in Project Manual, or National, State, or Local Codes and Ordinances.

C. Schedule electrical inspection by a third party inspection agency, such as New York State Board of Fire Underwriters or equivalent, acceptable to the local authority having jurisdiction, and submit final inspection certificate to Architect.

D. Furnish all materials and labor necessary for tests and pay all costs associated with tests and inspections.

E. Conduct all tests under load for load balancing and where required by Codes, Regulations, Ordinances, or Technical Specification.

F. Electrical Components, Devices, and Accessories: UL Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction and marked for intended use.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Take all reasonable precautions to store materials and products to protect finishes and not permit dust and dirt to penetrate equipment.

B. Replace all equipment damaged beyond reasonable repair as required by Architect.

C. Refinish any equipment with marks, stains, scratches, dents, etc., as required by Architect.

1.7 COORDINATION OF WORK

A. New Construction
   1. Openings, Chases, Recesses, Sleeves, Lintels and Bucks (required for admission of Electric Work Prime Contract systems and components): Coordinate requirements with General Work Prime Contractor for inclusion in General Work Prime Contract. Furnish all necessary information (e.g. locations and sizes) to General Work Prime Contractor in ample time for installation of systems and components included in Electric Work Prime Contract.

2. Anchor Bolts: Deliver to General Work Prime Contractor all anchor bolts required for Electric Work Prime Contract construction that are to be installed in construction included in General Work Prime Contract.
3. Locate settings, check locations as installation in General Work Prime Contract progresses, and provide templates or holding fixtures as required to maintain proper accuracy.

B. Existing Construction: Unless otherwise specified, employ General Work Prime Contractor for all cutting, patching, repairing and replacing of general work required for installation of systems and components included in Electric Work Prime Contract. Secure approval before cutting.
1. Anchor Bolts: Deliver to General Work Prime Contractor all anchor bolts required for Electric Work Prime Contract construction that are to be installed in construction included in General Work Prime Contract. Provide templates or holding fixtures as required to maintain proper accuracy.
2. Rough Openings in Roofs: Refer to Section 01 70 00 - Execution and Closeout Requirements.

1.8 ALTERATION PROCEDURES

A. In locations where existing non-TCLP compliant fluorescent lamps are to be removed, all removals and disposal shall be in strict accordance with Section 01 35 17 - Alteration Project Procedures, and Section 01 74 19 - Construction Waste Management and Disposal; Landfill diversion proposals; Waste Disposal Reports shall be done as part of Electrical Work Prime Contract.

B. In locations where existing devices are indicated to be disconnected and removed and existing circuit is not scheduled to be reused:
1. Remove circuit conductors back to source.
2. Modify panel directory for that circuit.
3. Remove all existing exposed and accessible conduit
4. Provide blank cover plate over existing recessed junction boxes or back boxes. Paint cover plates in finished areas to match existing room finish.
5. Patch and paint existing walls where disturbed by the electrical demolition. Refer to Section 01 35 17 - Alteration Project Procedures for additional requirements for patching and painting.

C. In locations where existing devices are to remain in place, ensure circuits feeding such devices remain operational. Modify existing circuits as required to allow new construction to occur and to maintain all necessary circuitry to existing devices.

D. In locations where entire existing system is being removed or modified:
1. Refer to individual system specification sections for Documentation and Testing Requirements prior to any alteration work on any system.
2. Take all necessary measures to ensure that down time will not compromise safety
3. Notify Owner, Architect and all other Prime Contractors not less than 2 weeks prior to interruptions in service.
4. Coordinate work schedule to minimize duration of system outage during hours when building is occupied.
5. Refer to Section 01 30 00 - Administrative Requirements for additional information and requirements.

1.9 SUBMITTALS

A. Comply with requirements of Section 01 30 00 - Submittal Procedures and as modified below. Refer to submittal listing in each section for specific items required.

B. Factory-Finished Surfaces: On all submittals, indicate standard factory color. Where more than one color is available, selection made by Architect from manufacturer's full range of colors.

C. Contract Closeout Submittals: Comply with requirements of Section 01 78 00, including submission of operating and maintenance instructions as item in "Electric Work Instructions" manual described in that section.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

A. Furnish and install all sleeves, inserts, panels, raceways, boxes, etc., ahead of general construction work and maintain Contractor personnel at Site during installation of general construction work to be responsible for and to maintain these items in position.

B. Unless otherwise noted elsewhere in Contract Documents, bear expense of all cutting, patching, repairing or replacing of work of other trades made necessary by any fault, error or tardiness on part of Electrical Work Prime Contract or damage done by Electric Work Prime Contract. Employ and pay Prime Contractor whose work is involved.

C. Do not cut waterproofed floors or walls for admission of any equipment or materials and do not pierce any structural members without written permission.

3.2 DEMONSTRATION OF COMPLETE ELECTRICAL SYSTEMS

A. Thoroughly demonstrate and instruct Owner's designated representative in care and operation of all electrical systems and equipment furnished and installed in Electric Work Prime Contract.

B. System Operator: Maintain competent operator at building for at least 2 days in 2 consecutive weeks after Owner takes occupancy of major parts of building to operate systems and equipment in presence of Owner's representative.

C. Factory Representative: In addition to demonstration and instruction specified above, provide technically qualified factory representatives from manufacturers of major equipment, to train Owner's representatives in care and operation of applicable products as specified in applicable technical sections of Division 26.

D. Coordinate and schedule time and place of all training through the Architect at the Owner’s convenience.

E. Submit letters attesting to satisfactory completion of all instructions, including date of completion of instruction, names of persons in attendance and signature of Owner’s authorized representative

F. Architect's representative must be present when Owner's representatives participate in instruction.

G. The following equipment and systems are included:
   1. Lighting dimming systems
   2. Fire alarm system

3.3 CLEANING AND REPAIR

A. Clean and repair existing materials and equipment that remain or that are to be reused.

B. Provide full inspection of exposed finishes.

C. Remove burrs, dirt, and construction debris.

D. Repair damaged surfaces including chips, scratches, and abrasions. Damp Rag clean all electrical equipment, panels, boxes, and accessories.

END OF SECTION

SECTION 26 05 19
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Single conductor building wire.

B. Underground feeder and branch-circuit cable.

C. Service entrance cable.

D. Metal-clad cable.

E. Wire and cable for 600 volts and less.

F. Wiring connectors.

G. Electrical tape.

H. Heat shrink tubing.

I. Oxide inhibiting compound.

J. Wire pulling lubricant.

K. Cable ties.

1.2 RELATED REQUIREMENTS

A. Section 07 84 00 - Firestopping.

B. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

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

1.3 REFERENCE STANDARDS

A. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

B. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2013 (Reapproved 2024).

C. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2023.

D. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes; 2010, with Editorial Revision (2020).

E. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2020).

F. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2024.

G. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes; 2020.

H. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

I. NECA 120 - Standard for Installing Armored Cable (AC) and Type Metal-Clad (MC) Cable; 2018.

J. NECA 121 - Standard for Installing Nonmetallic-Sheathed Cable (Type NM-B) and Underground Feeder and Branch-Circuit Cable (Type UF); 2024.

K. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; 2021.

L. NETA ATS - Standard for Acceptance Testing Specifications for Electrical Power Equipment And Systems; 2025.

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

N. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.

O. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.

P. UL 267 - Outline of Investigation for Wire-Pulling Compounds; Current Edition, Including All Revisions.

Q. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.

R. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.

S. UL 486D - Sealed Wire Connector Systems; Current Edition, Including All Revisions.

T. UL 493 - Thermoplastic-Insulated Underground Feeder and Branch-Circuit Cables; Current Edition, Including All Revisions.

U. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.

V. UL 854 - Service-Entrance Cables; Current Edition, Including All Revisions.

W. UL 1569 - Metal-Clad Cables; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
   3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 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 conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

C. Manufactured Wiring System Shop Drawings: Provide plan views indicating proposed system layout with components identified; indicate branch circuit connections.

D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

E. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing for underground circuits.

1.6 QUALITY ASSURANCE

A. Comply with all requirements of the Energy Conservation Construction Code in the State of New York, including but not limited to US Department of Energy, IECC 2018, and ASHRAE 90.1, including all updates, revisions and amendments.

B. Comply with requirements of NFPA 70.

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

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

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 CONDUCTOR AND CABLE APPLICATIONS

A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.

B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

C. Nonmetallic-sheathed cable is not permitted.

D. Concealed Dry Interior Locations: Use only building wire with Type THHN/THWN insulation in raceway or metal clad cable.

E. Exposed Dry Interior Locations: Use only building wire with Type THHN/THWN insulation in raceway.

F. Above Accessible Ceilings: Use only building wire with Type THHN/THWN insulation in raceway or metal clad cable.

G. Wet or Damp Interior Locations: Use only building wire with Type THHN/THWN insulation in raceway.

H. Exterior Locations: Use only building wire with Type THHN/THWN insulation in raceway.

I. Underground Installations: Use only building wire with Type THHN/THWN insulation in raceway.

J. Use solid conductors for all 12 AWG circuits. Use stranded conductors only for 10 AWG and larger.

K. Use conductor not smaller than 16 AWG for control circuits.

L. Use 10 AWG stranded conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.

M. Use 10 AWG stranded conductors for 20 ampere, 277 volt branch circuits longer than 150 feet.

2.2 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

A. Provide products that comply with requirements of NFPA 70.

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

C. Provide new conductors and cables manufactured not more than one year prior to installation.

D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.

E. Comply with NEMA WC 70.

F. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.

G. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

H. Conductors for Grounding and Bonding: Also comply with Section 26 05 26.

I. Conductor Material:
   1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
   2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
   3. Tinned Copper Conductors: Comply with ASTM B33.

J. Minimum Conductor Size:
   1. Branch Circuits: 12 AWG.
      a. Exceptions:
         1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
         2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.
         3) 20 A, 277 V circuits longer than 150 feet: 10 AWG, for voltage drop.

K. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

L. Conductor Color Coding:
   1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
   2. Color Coding Method: Integrally colored insulation.
      a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
   3. Color Code:
      a. 480Y/277 V, 3 Phase, 4 Wire System:
         1) Phase A: Brown.
         2) Phase B: Orange.
         3) Phase C: Yellow.
         4) Neutral/Grounded: Gray.
      b. 208Y/120 V, 3 Phase, 4 Wire System:
         1) Phase A: Black.
         2) Phase B: Red.
         3) Phase C: Blue.
         4) Neutral/Grounded: White.
      c. 240/120 V, 1 Phase, 3 Wire System:
         1) Phase A: Black.
         2) Phase B: Red.
         3) Neutral/Grounded: White.
      d. Equipment Ground, All Systems: Green.

2.3 SINGLE CONDUCTOR BUILDING WIRE

A. Manufacturers:
   1. Copper Building Wire:
      a. Cerro Wire LLC: www.cerrowire.com/#sle.

b. Encore Wire Corporation: www.encorewire.com/#sle.
c. General Cable Technologies Corporation: www.generalcable.com/#sle.
d. Industrial Wire & Cable, Inc: www.iewc.com.
e. Southwire Company: www.southwire.com/#sle.
f. Substitutions: See Section 01 60 00 - Product Requirements.

B. Description: Single conductor insulated wire.

C. Insulation Voltage Rating: 600 V.

D. Insulation:
1. Copper Building Wire: Type THHN/THWN.

2.4 UNDERGROUND FEEDER AND BRANCH-CIRCUIT CABLE

A. Description: NFPA 70, Type UF multiple-conductor cable listed and labeled as complying with UL 493, Type UF-B.

B. Provide equipment grounding conductor unless otherwise indicated.

C. Conductor Stranding:
1. Size 10 AWG and Smaller: Solid.
2. Size 8 AWG and Larger: Stranded.

D. Insulation Voltage Rating: 600 V.

2.5 SERVICE ENTRANCE CABLE

A. Manufacturers:
1. Copper Service Entrance Cable:
a. Cerro Wire LLC: www.cerrowire.com/#sle.
b. Encore Wire Corporation: www.encorewire.com/#sle.
c. Service Wire Co: www.servicewire.com/#sle.
d. Southwire Company: www.southwire.com/#sle.
e. Substitutions: See Section 01 60 00 - Product Requirements.

B. Service Entrance Cable for Above-Ground Use: NFPA 70, Type SE multiple-conductor cable listed and labeled as complying with UL 854, Style R.

C. Conductor Stranding: Stranded.

D. Insulation Voltage Rating: 600 V.

2.6 METAL-CLAD CABLE

A. Manufacturers:
1. AFC Cable Systems Inc: www.afcweb.com/#sle.
2. Encore Wire Corporation: www.encorewire.com/#sle.
3. Southwire Company: www.southwire.com/#sle.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.

C. Insulation Voltage Rating: 600 V.

D. Insulation: Type THHN or THHN/THWN.

E. Provide dedicated neutral conductor for each phase conductor.

F. Grounding: Full-size integral equipment grounding conductor.

G. Armor: Steel, interlocked tape.

H. Provide PVC jacket applied over cable armorfor exterior installations, or where indicated or required for environment of installed location.

2.7 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.

B. Connectors for Grounding and Bonding: Comply with Section 26 05 26.

C. Wiring Connectors for Splices and Taps:
1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors; split bolt type.
a. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.

D. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.

E. Wiring Connectors for Terminations:
1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
3. Copper Conductors6 AWG and larger: Use mechanical connectors where connectors are required.
4. Stranded Conductors: Use crimped terminals for connections to terminal screws.

F. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

G. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.

H. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
1. Manufacturers:
a. 3M: www.3m.com/#sle.
b. Ideal Industries, Inc: www.idealindustries.com/#sle.
c. Substitutions: See Section 01 60 00 - Product Requirements.

I. Mechanical Connectors: Provide bolted type or set-screw type.
1. Manufacturers:
a. Burndy LLC: www.burndy.com/#sle.
b. Thomas & Betts Corporation: www.tnb.com/#sle.
c. Substitutions: See Section 01 60 00 - Product Requirements.

J. Compression Connectors: Provide circumferential type crimp configuration.
1. Manufacturers:
a. Burndy LLC: www.burndy.com/#sle.
b. Thomas & Betts Corporation: www.tnb.com/#sle.
c. Substitutions: See Section 01 60 00 - Product Requirements.

K. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.
1. Manufacturers:
a. Burndy LLC: www.burndy.com/#sle.
b. Thomas & Betts Corporation: www.tnb.com/#sle.

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

2.8 ACCESSORIES

A. Electrical Tape:
1. Manufacturers:
a. 3M: www.3m.com/#sle.
b. Substitutions: See Section 01 60 00 - Product Requirements.
2. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F.
3. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.
4. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil; suitable for continuous temperature environment up to 194 degrees F and short-term 266 degrees F overload service.
5. Electrical Filler Tape: Rubber-based insulating moldable putty, minimum thickness of 125 mil; suitable for continuous temperature environment up to 176 degrees F.
6. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil.

B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.
1. Manufacturers:
a. 3M: www.3m.com/#sle.
b. Thomas & Betts Corporation: www.tnb.com/#sle.
c. Substitutions: See Section 01 60 00 - Product Requirements.

C. Oxide Inhibiting Compound: Listed; suitable for use with the conductors or cables to be installed.
1. Manufacturers:
a. Burndy LLC: www.burndy.com/#sle.
b. Ideal Industries, Inc: www.idealindustries.com/#sle.
c. Substitutions: See Section 01 60 00 - Product Requirements.

D. Wire Pulling Lubricant:
1. Manufacturers:
a. 3M: www.3m.com/#sle.
b. Ideal Industries, Inc: www.idealindustries.com/#sle.
c. Substitutions: See Section 01 60 00 - Product Requirements.
2. Listed and labeled as complying with UL 267.
3. Suitable for use with conductors/cables and associated insulation/jackets to be installed.
4. Suitable for use at installation temperature.

E. Cable Ties: Material and tensile strength rating suitable for application.
1. Manufacturers:
a. Burndy LLC: www.burndy.com/#sle.
b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that work likely to damage wire and cable has been completed.

C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.

D. Verify that field measurements are as indicated.

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

3.2 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.3 INSTALLATION

A. Circuiting Requirements:
   1. Unless dimensioned, circuit routing indicated is diagrammatic.
   2. When circuit destination is indicated without specific routing, determine exact routing required.
   3. Include circuit lengths required to install connected devices within 10 ft of location indicated.
   4. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
   5. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is permitted, under the following conditions:
      a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
      b. Increase size of conductors as required to account for ampacity derating.
      c. Size raceways, boxes, etc. to accommodate conductors.
   6. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.
   7. Provide oversized neutral/grounded conductors where indicated and as specified below.
      a. Provide 200 percent rated neutral for feeders fed from K-rated transformers.
      b. Provide 200 percent rated neutral for feeders serving panelboards with 200 percent rated neutral bus.

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

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

D. Install underground feeder and branch-circuit cable (Type UF-B) in accordance with NECA 121.

E. Install metal-clad cable (Type MC) in accordance with NECA 120.

F. Installation in Raceway:
   1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
   2. Pull all conductors and cables together into raceway at same time.
   3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
   4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.

G. Exposed Cable Installation (only where specifically permitted):
   1. Route cables parallel or perpendicular to building structural members and surfaces.
   2. Protect cables from physical damage.

H. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.

I. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
   1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.

2. Installation in Vertical Raceways: Provide supports where vertical rise exceeds permissible limits.

J. Terminate cables using suitable fittings.
1. Metal-Clad Cable (Type MC):
a. Use listed fittings.
b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.

K. Install conductors with a minimum of 12 inches of slack at each outlet.

L. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.

M. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.

N. Make wiring connections using specified wiring connectors.
1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
3. Do not remove conductor strands to facilitate insertion into connector.
4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
6. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

O. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
1. Dry Locations: Use electrical tape.
a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
2. Damp Locations: Use insulating covers specifically designed for the connectors.
a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
3. Wet Locations: Use heat shrink tubing.

P. Insulate ends of spare conductors using vinyl insulating electrical tape.

Q. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.

R. Identify conductors and cables in accordance with Section 26 05 53. Identify each conductor with its circuit number or other designation indicated.

S. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

T. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.4 FIELD QUALITY CONTROL

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

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

C. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is only required for services and feeders. The resistance test for parallel conductors listed as optional is not required.

D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION

SECTION 26 05 26
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Grounding and bonding requirements.

B. Conductors for grounding and bonding.

C. Connectors for grounding and bonding.

D. Ground rod electrodes.

1.2 RELATED REQUIREMENTS

A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.

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

1.3 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NEMA GR 1 - Grounding Rod Electrodes and Grounding Rod Electrode Couplings; 2022.

C. NETA ATS - Standard for Acceptance Testing Specifications for Electrical Power Equipment And Systems; 2025.

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

E. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Verify exact locations of underground metal water service pipe entrances to building.
   2. Coordinate the work with other trades to provide steel reinforcement complying with specified requirements for concrete-encased electrode.
   3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not install ground rod electrodes until final backfill and compaction is complete.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for grounding and bonding system components.

C. Project Record Documents: Record actual locations of grounding electrode system components and connections.

D. Certificate of Compliance: Indicate approval of installation by authority having jurisdiction.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

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

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

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 GROUNDING AND BONDING REQUIREMENTS

A. Existing Work: Where existing grounding and bonding system components are indicated to be reused, they may be reused only where they are free from corrosion, integrity and continuity are verified, and where acceptable to the authority having jurisdiction.

B. Do not use products for applications other than as permitted by NFPA 70 and product listing.

C. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.

D. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

E. Grounding System Resistance:
1. Achieve specified grounding system resistance under normally dry conditions unless otherwise approved by Architect. Precipitation within the previous 48 hours does not constitute normally dry conditions.
2. Grounding Electrode System: Not greater than 5 ohms to ground, when tested according to IEEE 81 using "fall-of-potential" method.

F. Grounding Electrode System:
1. Provide connection to required and supplemental grounding electrodes indicated to form grounding electrode system.
   a. Provide continuous grounding electrode conductors without splice or joint.
   b. Install grounding electrode conductors in raceway where exposed to physical damage. Bond grounding electrode conductor to metallic raceways at each end with bonding jumper.
2. Metal Underground Water Pipe(s):
   a. Provide connection to underground metal domestic and fire protection (where present) water service pipe(s) that are in direct contact with earth for at least 10 feet at an accessible location not more than 5 feet from the point of entrance to the building.
   b. Provide bonding jumper(s) around insulating joints/pipes as required to make pipe electrically continuous.
   c. Provide bonding jumper around water meter of sufficient length to permit removal of meter without disconnecting jumper.
3. Concrete-Encased Electrode:
   a. Provide connection to concrete-encased electrode consisting of not less than 20 feet of steel reinforcing bars embedded within concrete foundation or footing that is in direct contact with earth in accordance with NFPA 70.

4. Ground Ring:
    a. Where location is not indicated, locate ground ring conductor at least 24 inches outside building perimeter foundation.
    b. Provide connection from ground ring conductor to:
        1) Perimeter columns of metal building frame.
        2) Ground rod electrodes located at service entrance.
5. Ground Rod Electrode(s):
    a. Provide three electrodes in an equilateral triangle configuration unless otherwise indicated or required.
    b. Space electrodes not less than 10 feet from each other and any other ground electrode.
    c. Where location is not indicated, locate electrode(s) at least 5 feet outside building perimeter foundation as near as possible to electrical service entrance; where possible, locate in softscape (uncovered) area.
6. Provide additional ground electrode(s) as required to achieve specified grounding electrode system resistance.

G. Bonding and Equipment Grounding:
1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.
2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.
7. Provide bonding for interior metal piping systems in accordance with NFPA 70. This includes, but is not limited to:
    a. Metal water piping where not already effectively bonded to metal underground water pipe used as grounding electrode.
    b. Metal gas piping.
8. Provide bonding for interior metal air ducts.
9. Provide bonding for metal building frame.
10. Provide bonding for metal siding not effectively bonded through attachment to metal building frame.
11. Provide bonding and equipment grounding for pools and fountains and associated equipment in accordance with NFPA 70.

2.2 GROUNDING AND BONDING COMPONENTS

A. General Requirements:
1. Provide products listed, classified, and labeled as suitable for the purpose intended.
2. Provide products listed and labeled as complying with UL 467 where applicable.

B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 05 26:
1. Use insulated copper conductors unless otherwise indicated.
    a. Exceptions:
        1) Use bare copper conductors where installed underground in direct contact with earth.
        2) Use bare copper conductors where directly encased in concrete (not in raceway).
2. Wire: Stranded Copper.

C. Connectors for Grounding and Bonding:

1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
3. Unless otherwise indicated, use bronze mechanical connectors for accessible connections.
   a. Exceptions:
      1) Use exothermic welded connections for connections to metal building frame.
4. Manufacturers - Mechanical and Compression Connectors:
   a. Burndy LLC: www.burndy.com/#sle.
   b. Copperweld: www.copperweld.com.
   c. Erico International: www.erico.com.
   d. O-Z Gedney: www.emerson.com.
   e. Thomas & Betts Corporation: www.tnb.com/#sle.
   f. Substitutions: See Section 01 60 00 - Product Requirements.
5. Manufacturers - Exothermic Welded Connections:
   a. Copperweld: www.copperweld.com.
   b. O-Z Gedney: www.emerson.com.
   c. Substitutions: See Section 01 60 00 - Product Requirements.

D. Ground Rod Electrodes:
1. Comply with NEMA GR 1.
2. Material: Copper.
3. Size: 3/4 inch diameter by 10 feet length, unless otherwise indicated.
4. Manufacturers:
   a. Copperweld: www.copperweld.com.
   b. Thomas & Betts
   c. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that work likely to damage grounding and bonding system components has been completed.

B. Verify that field measurements are as indicated.

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

3.2 INSTALLATION

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

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

C. Ground Rod Electrodes: Unless otherwise indicated, install ground rod electrodes vertically. Where encountered rock prohibits vertical installation, install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70 or install at 45 degree angle or bury horizontally in trench at least 30 inches (750 mm) deep in accordance with NFPA 70.
1. Outdoor Installations: Unless otherwise indicated, install with top of rod 6 inches below finished grade.

D. Make grounding and bonding connections using specified connectors.
1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.

3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

E. Identify grounding and bonding system 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. Inspect and test in accordance with NETA ATS except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.13.

D. Perform ground electrode resistance tests under normally dry conditions. Precipitation within the previous 48 hours does not constitute normally dry conditions.

E. Investigate and correct deficiencies where measured ground resistances do not comply with specified requirements.

F. Submit detailed reports indicating inspection and testing results and corrective actions taken.

END OF SECTION

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SECTION 26 05 29
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.2 RELATED REQUIREMENTS

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

B. Section 26 05 33.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.

C. Section 26 05 33.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.

D. Section 26 51 00 - Interior Lighting: Additional support and attachment requirements for interior luminaires.

1.3 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2023.

D. MFMA-4 - Metal Framing Standards Publication; 2004.

E. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

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

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate sizes and arrangement of supports and bases with actual equipment and components to be installed.
   2. Coordinate work to provide additional framing and materials required for installation.
   3. Coordinate compatibility of support and attachment components with mounting surfaces at installed locations.
   4. Coordinate arrangement of supports with ductwork, piping, equipment and other potential conflicts.
   5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured.

1.5 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 channel/strut framing systems, nonpenetrating rooftop supports, and post-installed concrete/masonry anchors.

C. Evaluation Reports: For products specified as requiring evaluation and recognition by ICC Evaluation Service, LLC (ICC-ES), provide current ICC-ES evaluation reports upon request.

D. Installer's qualification statement.

E. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.6 QUALITY ASSURANCE

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

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
   1. Comply with the following. Where requirements differ, comply with most stringent.
      a. NFPA 70.
      b. Requirements of authorities having jurisdiction.
   2. Provide required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for complete installation of electrical work.
   3. Provide products listed, classified, and labeled as suitable for purpose intended, where applicable.
   4. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
   5. Do not use products for applications other than as permitted by NFPA 70 and product listing.
   6. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
   7. Steel Components: Use corrosion-resistant materials suitable for environment where installed.
      a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
      b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel or approved equivalent unless otherwise indicated.
      c. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
      d. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.

B. Conduit and Cable Supports: Straps and clamps suitable for conduit or cable to be supported.
   1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
   2. Conduit Clamps: Bolted type unless otherwise indicated.

C. Outlet Box Supports: Hangers and brackets suitable for boxes to be supported.

D. Metal Channel/Strut Framing Systems:
   1. Description: Factory-fabricated, continuous-slot, metal channel/strut and associated fittings, accessories, and hardware required for field assembly of supports.
   2. Comply with MFMA-4.
   3. Channel Material:
      a. Indoor Dry Locations: Use zinc-plated steel.
      b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel.
   4. Minimum Channel Thickness: Steel sheet, 12 gauge, 0.1046 inch.
   5. Minimum Channel Dimensions: 1-5/8 inch wide by 13/16 inch high.

E. Hanger Rods: Threaded, zinc-plated steel unless otherwise indicated.
   1. Minimum Size, Unless Otherwise Indicated or Required:
      a. Equipment Supports: 1/2-inch diameter.
      b. Single Conduit up to 1-inch (27 mm) Trade Size: 1/4-inch diameter.
      c. Single Conduit Larger than 1-inch (27 mm) Trade Size: 3/8-inch diameter.
      d. Trapeze Support for Multiple Conduits: 3/8-inch diameter.
      e. Outlet Boxes: 1/4-inch diameter.
      f. Luminaires: 1/4-inch diameter.

F. Anchors and Fasteners:
   1. Unless otherwise indicated and where not otherwise restricted, use anchor and fastener types indicated for specified applications.
   2. Concrete: Use expansion anchors or screw anchors.
   3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
   4. Hollow Masonry: Use toggle bolts.
   5. Hollow Stud Walls: Use toggle bolts.
   6. Steel: Use beam clamps or machine bolts.
   7. Sheet Metal: Use sheet metal screws.
   8. Wood: Use wood screws.
   9. Powder-actuated fasteners are permitted only as follows:
      a. Use only threaded studs; do not use pins.
   10. Hammer-driven anchors and fasteners are not permitted.
   11. Preset Concrete Inserts: Continuous metal channel/strut and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
      a. Manufacturer: Same as manufacturer of metal channel/strut framing system.
      b. Comply with MFMA-4.
      c. Channel Material: Use galvanized steel.
      d. Minimum Channel Thickness: Steel sheet, 12 gauge, 0.1046 inch minimum base metal thickness.
   12. Post-Installed Concrete and Masonry Anchors: Evaluated and recognized by ICC Evaluation Service, LLC (ICC-ES) for compliance with applicable building code.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive support and attachment components.

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

3.2 INSTALLATION

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

B. Install hangers and supports in accordance with NECA 1.

C. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.

D. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

E. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.

F. Unless specifically indicated or approved by Architect, do not provide support from roof deck.

G. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.

H. Equipment Support and Attachment:
   1. Use metal, fabricated supports or supports assembled from metal channel/strut to support equipment as required.
   2. Use metal channel/strut secured to studs to support equipment surface mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
   3. Use metal channel/strut to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
      a. Minimum standoff: 1 inch.
   4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
   5. Rigidly weld support members or use hexagon-head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
   6. Install surface-mounted cabinets and panelboards with minimum of four anchors.
   7. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

I. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.

J. Secure fasteners in accordance with manufacturer's recommended torque settings.

K. Remove temporary supports.

3.3 FIELD QUALITY CONTROL

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

B. Inspect support and attachment components for damage and defects.

C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION

SECTION 26 05 33.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Galvanized steel rigid metal conduit (RMC).

B. Stainless steel rigid metal conduit (RMC).

C. Galvanized steel intermediate metal conduit (IMC).

D. Stainless steel intermediate metal conduit (IMC).

E. PVC-coated galvanized steel rigid metal conduit (RMC).

F. Flexible metal conduit (FMC).

G. Liquidtight flexible metal conduit (LFMC).

H. Galvanized steel electrical metallic tubing (EMT).

I. Stainless steel electrical metallic tubing (EMT).

J. Aluminum electrical metallic tubing (EMT).

K. Rigid polyvinyl chloride (PVC) conduit.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Concrete encasement of conduits.

B. Section 07 84 00 - Firestopping.

C. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Cable assemblies consisting of conductors protected by integral metal armor.

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 33.16 - Boxes for Electrical Systems.

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

1.3 REFERENCE STANDARDS

A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2025.

B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S); 2020.

C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit; 2025.

D. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

E. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); 2020.

F. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.

G. NEMA RN 1 - Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Metal Conduit and Intermediate Metal Conduit; 2018.

H. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit; 2020.

I. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing; 2021.

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

K. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.

L. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.

M. UL 6A - Electrical Rigid Metal Conduit-Aluminum, Red Brass, and Stainless Steel; Current Edition, Including All Revisions.

N. UL 360 - Liquid-Tight Flexible Metal Conduit; Current Edition, Including All Revisions.

O. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

P. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.

Q. UL 651 - Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings; Current Edition, Including All Revisions.

R. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.

S. UL 797A - Electrical Metallic Tubing - Aluminum and Stainless Steel; Current Edition, Including All Revisions.

T. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate minimum sizes of conduits with actual type and quantity of conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
   2. Coordinate arrangement of conduits with structural members, ductwork, piping, equipment, and other potential conflicts.
   3. Verify exact conduit termination locations required for boxes, enclosures, and equipment.
   4. Coordinate work to provide roof penetrations that preserve integrity of roofing system and do not void roof warranty.
   5. Notify Architect of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:
   1. Do not begin installation of conductors and cables until installation of conduit between termination points is complete.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.

C. Project Record Documents: Record actual routing for conduits installed underground, conduits embedded within concrete slabs, and conduits 2-inch (53 mm) trade size and larger.

1.6 QUALITY ASSURANCE

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

B. Work shall be inspected by a local Authority Having Jurisdiction (AHJ). Contractor shall provide certificate of inspection prior to final payment request.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 CONDUIT APPLICATIONS

A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70, manufacturer's instructions, and product listing.

B. Unless otherwise indicated and where not otherwise restricted, use conduit types indicated for specified applications. Where more than one listed application applies, comply with most restrictive requirements. Where conduit type for particular application is not specified, use galvanized steel rigid metal conduit.

C. Underground:
1. Under Slab on Grade: Use galvanized steel rigid metal conduit.
2. Exterior, Direct-Buried: Use rigid PVC conduit.
3. Exterior, Embedded Within Concrete: Use rigid PVC conduit.
4. Where rigid polyvinyl chloride (PVC) conduit is provided, transition to galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), stainless steel intermediate metal conduit (IMC), or schedule 80 rigid PVC conduit where emerging from underground.
5. Where rigid polyvinyl (PVC) conduit larger than 2-inch (53 mm) trade size is provided, use galvanized steel rigid metal conduit (RMC) elbows, stainless steel rigid metal conduit (RMC) elbows, galvanized steel intermediate metal conduit (IMC) elbows, stainless steel intermediate metal conduit (IMC) elbows, PVC-coated galvanized steel rigid metal conduit (RMC) elbows, or concrete-encased PVC elbows for bends.

D. Embedded Within Concrete:
1. Within Slab on Grade: Use rigid PVC conduit.
2. Within Slab Above Ground: Use rigid PVC conduit.
3. Within Concrete Walls Above Ground: Use rigid PVC conduit.
4. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), stainless steel intermediate metal conduit (IMC), or galvanized steel electrical metallic tubing (EMT) where emerging from concrete.

E. Concealed Within Masonry Walls: Use electrical metallic tubing (EMT).

F. Concealed Within Hollow Stud Walls: Use electrical metallic tubing (EMT).

G. Concealed Above Accessible Ceilings: Use electrical metallic tubing (EMT).

H. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit (RMC), stainless steel rigid metal conduit (RMC), galvanized steel intermediate metal conduit (IMC), stainless steel intermediate metal conduit (IMC), galvanized steel electrical metallic tubing (EMT), or stainless steel electrical metallic tubing (EMT).

I. Exposed, Interior, Not Subject to Physical Damage: Use electrical metallic tubing (EMT).

J. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit.
   1. Locations subject to physical damage include, but are not limited to:
      a. Where exposed below 8 feet, except within electrical and communication rooms or closets.

K. Exposed, Exterior: Use galvanized steel rigid metal conduit.

L. Flexible Connections to Luminaires Above Accessible Ceilings: Use flexible metal conduit (FMC).
   1. Maximum Length: 6 feet.

M. Flexible Connections to Vibrating Equipment:
   1. Dry Locations: Use flexible metal conduit (FMC).
   2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit (LFMC).
   3. Maximum Length: 6 feet unless otherwise indicated.
   4. Vibrating equipment includes, but is not limited to:
      a. Transformers.
      b. Motors.

N. Fished in Existing Walls, Where Necessary: Use flexible metal conduit (FMC), galvanized steel electrical metallic tubing (EMT), or stainless steel electrical metallic tubing (EMT).

2.2 CONDUIT - GENERAL REQUIREMENTS

A. Comply with NFPA 70.

B. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling mandrel through them.

C. Provide conduit, fittings, supports, and accessories required for complete raceway system.

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

E. Minimum Conduit Size, Unless Otherwise Indicated:
   1. Branch Circuits: 3/4 inch (21 mm) trade size.
   2. Branch Circuit Homeruns: 3/4-inch trade size.
   3. Flexible Connections to Luminaires: 1/2 inch (16 mm) trade size.
   4. Underground, Interior: 3/4-inch trade size.
   5. Underground, Exterior: 3/4 inch (21 mm) trade size.

F. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.3 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Manufacturers:
   1. Allied Tube & Conduit, a division of Atkore International: www.alliedeg.com/#sle.
   2. Picoma: www.picoma.com.
   3. Wheatland Tube, a division of Zekelman Industries: www.wheatland.com/#sle.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.

C. Fittings:
   1. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6.
   2. Material: Use steel.
   3. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.4 STAINLESS STEEL RIGID METAL CONDUIT (RMC)

A. Description: NFPA 70, Type RMC stainless steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6A.

B. Fittings:
1. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6A.
2. Material: Use stainless steel with corrosion resistance equivalent to conduit.
3. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.5 GALVANIZED STEEL INTERMEDIATE METAL CONDUIT (IMC)

A. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.

B. Fittings:
1. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 1242.
2. Material: Use steel or malleable iron.
3. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.6 STAINLESS STEEL INTERMEDIATE METAL CONDUIT (IMC)

A. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.

B. Fittings:
1. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 1242.

2.7 PVC-COATED GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit with external polyvinyl chloride (PVC) coating complying with NEMA RN 1 and listed and labeled as complying with UL 6.

B. Exterior Coating: Polyvinyl chloride (PVC), nominal thickness of 40 mil, 0.040 inch.

C. PVC-Coated Boxes and Fittings:
1. Manufacturer: Same as manufacturer of PVC-coated conduit to be installed.
2. Nonhazardous Locations: Use boxes and fittings listed and labeled as complying with UL 514A, UL 514B, or UL 6.
3. Material: Use steel or malleable iron.
4. Exterior Coating: Polyvinyl chloride (PVC), minimum thickness of 40 mil, 0.040 inch.

D. PVC-Coated Supports: Furnish with exterior coating of polyvinyl chloride (PVC), minimum thickness of 15 mil, 0.015 inch.

2.8 FLEXIBLE METAL CONDUIT (FMC)

A. Manufacturers:
1. AFC Cable Systems, Inc: www.afcweb.com/#sle.
2. Electri-Flex Company: www.electriflex.com/#sle.
3. International Metal Hose: www.metalhose.com/#sle.

B. Description: NFPA 70, Type FMC standard-wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems.

C. Fittings:
   1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Material: Use steel or malleable iron.

2.9 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

A. Manufacturers:
   1. AFC Cable Systems, Inc: www.afcweb.com/#sle.
   2. Electri-Flex Company: www.electriflex.com/#sle.
   3. International Metal Hose: www.metalhose.com/#sle.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.

C. Fittings:
   1. Manufacturers:
      a. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
      b. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.
      c. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   3. Material: Use aluminum.

2.10 GALVANIZED STEEL ELECTRICAL METALLIC TUBING (EMT)

A. Manufacturers:
   1. Allied Tube & Conduit: www.alliedeg.com/#sle.
   2. Nucor Tubular Products: www.nucortubular/#sle.
   3. Wheatland Tube Company: www.wheatland.com/#sle.

B. Description: NFPA 70, Type EMT galvanized steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.

C. Fittings:
   1. Manufacturers:
      a. Bridgeport Fittings, LLC: www.bptfittings.com/#sle.
      b. Emerson Electric Co; O-Z/Gedney: www.emerson.com/#sle.
      c. Substitutions: See Section 01 60 00 - Product Requirements.
   2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   3. Material: Use steel.
   4. Connectors and Couplings: Use set-screw type.
      a. Do not use indenter type connectors and couplings.

2.11 STAINLESS STEEL ELECTRICAL METALLIC TUBING (EMT)

A. Description: NFPA 70, Type EMT stainless steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797A.

B. Fittings:
   1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
   2. Connectors and Couplings: Use compression/gland or set-screw type.

2.12 ALUMINUM ELECTRICAL METALLIC TUBING (EMT)

A. Description: NFPA 70, Type EMT aluminum electrical metallic tubing listed and labeled as complying with UL 797A.

B. Fittings:
   1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B; listed for use with aluminum EMT.
   2. Material: Use aluminum.
   3. Connectors and Couplings: Use compression/gland or set-screw type.
      a. Do not use indenter type connectors and couplings.

2.13 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

A. Manufacturers:
   1. Cantex Inc: www.cantexinc.com/#sle.
   2. JM Eagle: www.jmeagle.com/#sle.
   3. Picoma: www.picoma.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 80 unless otherwise indicated; rated for use with conductors rated 90 degrees C, schedule 40 not permitted.

C. Fittings:
   1. Manufacturer: Same as manufacturer of conduit to be connected.
   2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

2.14 ACCESSORIES

A. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.

B. Pull Strings: Use nylon or polyester tape with average breaking strength of not less than 1,250 lbf.

C. Sealing Compound for Hazardous/Classified Location Sealing Fittings: Listed for use with particular fittings to be installed.

D. Sealing Systems for Concrete Penetrations:
   1. Sleeves: Provide water stop ring or cement coating that bonds to concrete to prevent water infiltration.
   2. Rate for minimum of 40 psig; suitable for sealing around conduits to be installed.

E. Bore Spacers: Nonmetallic; designed for maintaining conduit/duct spacing for installation within casing; furnished with roller wheels to facilitate installation, openings to facilitate grout flow, and holes for stabilization cable; suitable for casing and conduit/duct arrangement to be installed.
   1. Products:
      a. Advance Products & Systems, LLC; Bore Spacers: www.apsonline.com/#sle.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive conduits.

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

3.2 INSTALLATION

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

B. Where conduit is installed on an existing wall, paint conduit to match the wall finish.

C. Install conduit in accordance with NECA 1.

D. Galvanized Steel Rigid Metal Conduit (RMC): Install in accordance with NECA 101.

E. Intermediate Metal Conduit (IMC): Install in accordance with NECA 101.

F. PVC-Coated Galvanized Steel Rigid Metal Conduit (RMC): Install using only tools approved by manufacturer.

G. Rigid Polyvinyl Chloride (PVC) Conduit: Install in accordance with NECA 111.

H. Conduit Routing:
1. Unless dimensioned, conduit routing indicated is diagrammatic.
2. When conduit destination is indicated without specific routing, determine exact routing required.
3. Conceal conduits unless specifically indicated to be exposed.
4. Conduits in the following areas may be exposed, unless otherwise indicated:
   a. Electrical rooms.
   b. Mechanical equipment rooms.
   c. Within joists in areas with no ceiling.
5. Conduits installed underground or embedded in concrete may be routed in shortest possible manner unless otherwise indicated. Route other conduits parallel or perpendicular to building structure and surfaces, following surface contours where practical.
6. Arrange conduit to maintain adequate headroom, clearances, and access.
7. Arrange conduit to provide no more than the equivalent of three 90 degree bends between pull points.
8. Route conduits above water and drain piping where possible.
9. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
10. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
11. Maintain minimum clearance of 12 inches between conduits and hot surfaces. This includes, but is not limited to:
    a. Heaters.
    b. Hot water piping.
    c. Flues.
12. Group parallel conduits in same area on common rack.

I. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by authorities having jurisdiction; see Section 26 05 29.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
4. Use conduit strap to support single surface-mounted conduit.
   a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
5. Use metal channel/strut with accessory conduit clamps to support multiple parallel surface-mounted conduits.
6. Use conduit clamp to support single conduit from beam clamp or threaded rod.
7. Use trapeze hangers assembled from threaded rods and metal channel/strut with accessory conduit clamps to support multiple parallel suspended conduits.
8. Use of spring steel conduit clips for support of conduits is not permitted.

9. Use of wire for support of conduits is not permitted.

J. Connections and Terminations:
   1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
   2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
   3. Use suitable adapters where required to transition from one type of conduit to another.
   4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
   5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
   6. Provide insulating bushings, insulated throats, or listed metal fittings with smooth, rounded edges at conduit terminations to protect conductors.
   7. Secure joints and connections to provide mechanical strength and electrical continuity.

K. Penetrations:
   1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
   2. Make penetrations perpendicular to surfaces unless otherwise indicated.
   3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
   4. Conceal bends for conduit risers emerging above ground.
   5. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
   6. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty.
   7. Install firestopping to preserve fire resistance rating of partitions and other elements; see Section 07 84 00.

L. Embedment Within Structural Concrete Slabs (only where approved by Structural Engineer):
   1. Secure conduits to prevent floating or movement during pouring of concrete.

M. Concrete Encasement: Where conduits not otherwise embedded within concrete are indicated to be concrete-encased, provide minimum concrete cover of 3 inches on all sides unless otherwise indicated; see Section 03 30 00.

N. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
   1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
   2. Where calculated in accordance with NFPA 70 for rigid polyvinyl chloride (PVC) conduit installed above ground to compensate for thermal expansion and contraction.
   3. Where conduits are subject to earth movement by settlement or frost.

O. Conduit Sealing:
   1. Use foam conduit sealant to prevent entry of moisture and gases. This includes, but is not limited to:
      a. Where conduits enter building from outside.
      b. Where service conduits enter building from underground distribution system.
      c. Where conduits enter building from underground.
      d. Where conduits may transport moisture to contact live parts.
   2. Where conduits cross barriers between areas of potential substantial temperature differential, use foam conduit sealant at accessible point near penetration to prevent condensation. This includes, but is not limited to:
      a. Where conduits pass from outdoors into conditioned interior spaces.
      b. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.

P. Provide pull string in each empty conduit and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches at each end.

Q. Provide grounding and bonding; see Section 26 05 26.

R. Identify conduits; see Section 26 05 53.

3.3 FIELD QUALITY CONTROL

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

B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.

C. Where coating of PVC-coated galvanized steel rigid metal conduit (RMC) contains cuts or abrasions, repair in accordance with manufacturer's instructions.

D. Correct deficiencies and replace damaged or defective conduits.

3.4 CLEANING

A. Clean interior of conduits to remove moisture and foreign matter.

3.5 PROTECTION

A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

SECTION 26 05 33.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.

B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.

C. Underground boxes/enclosures.

D. Accessories.

1.2 RELATED REQUIREMENTS

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

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

C. Section 26 05 33.13 - Conduit for Electrical Systems:
   1. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.

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

E. Section 26 27 26 - Wiring Devices:
   1. Wall plates.
   2. Additional requirements for locating boxes for wiring devices.

1.3 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

C. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

D. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.

E. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; 2013 (Reaffirmed 2020).

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

G. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

H. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.

I. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.

J. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
6. Coordinate the work with other trades to preserve insulation integrity.
7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
8. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 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 cabinets and enclosures, boxes for hazardous (classified) locations, floor boxes, and underground boxes/enclosures.

C. Project Record Documents: Record actual locations for outlet and device boxes, pull boxes, cabinets and enclosures, floor boxes, and underground boxes/enclosures.

D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. Keys for Lockable Enclosures: Two of each different key.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

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

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 BOXES

A. General Requirements:
1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:
   1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
   2. Use cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
   3. Use cast aluminum boxes where exposed galvanized steel rigid metal conduit is used.
   4. Use suitable concrete type boxes where flush-mounted in concrete.
   5. Use suitable masonry type boxes where flush-mounted in masonry walls.
   6. Use raised covers suitable for the type of wall construction and device configuration where required.
   7. Use shallow boxes where required by the type of wall construction.
   8. Do not use "through-wall" boxes designed for access from both sides of wall.
   9. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
   10. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
   11. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
   12. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
   13. Wall Plates: Comply with Section 26 27 26.
   14. Manufacturers:
       a. Cooper Crouse-Hinds, a division of Eaton Corporation: www.cooperindustries.com/#sle.
       b. Hubbell Incorporated; Bell Products: www.hubbell-rtb.com/#sle.
       c. Hubbell Incorporated; RACO Products: www.hubbell-rtb.com/#sle.
       d. Thomas & Betts Corporation: www.tnb.com/#sle.
       e. Substitutions: See Section 01 60 00 - Product Requirements.

C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
   1. Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
   2. NEMA EN 10250 Environment Type, Unless Otherwise Indicated:
      a. Indoor Clean, Dry Locations: Type 1, painted steel.
      b. Outdoor Locations: Type 4, painted steel.
   3. Junction and Pull Boxes Larger Than 100 cubic inches:
      a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.
      b. Boxes 6 square feet and Larger: Provide sectionalized screw-cover or hinged-cover enclosures.
   4. Finish for Painted Steel Enclosures: Manufacturer's standard grey unless otherwise indicated.
   5. Manufacturers:
      a. Cooper B-Line, a division of Eaton Corporation: www.cooperindustries.com/#sle.
      b. Hoffman, a brand of Pentair Technical Products: www.hoffmanonline.com/#sle.
      c. Hubbell Incorporated; Wiegmann Products: www.hubbell-wiegmann.com/#sle.
      d. Substitutions: See Section 01 60 00 - Product Requirements.

D. Underground Boxes/Enclosures:
   1. Description: In-ground, open bottom boxes furnished with flush, non-skid covers with legend indicating type of service and stainless steel tamper resistant cover bolts.
   2. Size: As indicated on drawings.
   3. Depth: As required to extend below frost line to prevent frost upheaval, but not less than 48 inches.
   4. Applications:
      a. Do not use polymer concrete enclosures in areas subject to deliberate vehicular traffic.

E. Underground Boxes/Enclosures - Vehicular Traffic:
   1. Description: In-ground, solid bottom boxes with drain, furnished with flush, non-skid covers with legend indicating type of service and stainless steel tamper resistant cover bolts.

2. Size: As required, but not less than 18 inches square, inside dimension.
3. Depth: As required to extend below frost line to prevent frost upheaval, but not less than 48 inches.
4. Provide logo on cover to indicate type of service.
5. Applications:
   a. Parking lots, Driveways, or Right of ways subject to Deliberate Vehicular Traffic: Use precast concrete enclosures with minimum H-20 load rating.
   b. Provide cast iron frame and cover with corresponding load rating.
   c. Do not use polymer concrete enclosures in areas subject to deliberate vehicular traffic.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that mounting surfaces are ready to receive boxes.

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

3.2 INSTALLATION

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

B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.

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

D. Provide separate boxes for emergency power and normal power systems.

E. Unless otherwise indicated, provide separate boxes for line voltage and low voltage systems.

F. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.

G. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.

H. Box Locations:
   1. Unless dimensioned, box locations indicated are approximate.
   2. Locate boxes as required for devices installed under other sections or by others.
      a. Switches, Receptacles, and Other Wiring Devices: Comply with Section 26 27 26.
   3. Locate boxes so that wall plates do not span different building finishes.
   4. Locate boxes so that wall plates do not cross masonry joints.
   5. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.
   6. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches horizontal separation unless otherwise indicated.
   7. Acoustic-Rated Walls: Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches horizontal separation.
   8. Fire Resistance Rated Walls: Install flush-mounted boxes such that the required fire resistance will not be reduced.
      a. Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches separation where wall is constructed with individual noncommunicating stud cavities or protect both boxes with listed putty pads.

b. Do not install flush-mounted boxes with area larger than 16 square inches or such that the total aggregate area of openings exceeds 100 square inches for any 100 square feet of wall area.

9. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 26 05 33.13.
10. Locate junction and pull boxes in the following areas, unless otherwise indicated or approved by the Architect:
    a. Concealed above accessible suspended ceilings.
    b. Within joists in areas with no ceiling.
    c. Electrical rooms.
    d. Mechanical equipment rooms.

I. Box Supports:
1. Secure and support boxes in accordance with NFPA 70 and Section 26 05 29 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
4. Use far-side support to secure flush-mounted boxes supported from single stud in hollow stud walls. Repair or replace supports for boxes that permit excessive movement.

J. Install boxes plumb and level.

K. Flush-Mounted Boxes:
1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.

L. Install boxes as required to preserve insulation integrity.

M. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

N. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

O. Close unused box openings.

P. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

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

R. Identify boxes in accordance with Section 26 05 53.

3.3 CLEANING

A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.4 PROTECTION

A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION

SECTION 26 05 53
IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Electrical identification requirements.

B. Identification nameplates and labels.

C. Wire and cable markers.

D. Underground warning tape.

1.2 RELATED REQUIREMENTS

A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Color coding for power conductors and cables 600 V and less; vinyl color coding electrical tape.

B. Section 26 27 26 - Wiring Devices: Device and wallplate finishes; factory pre-marked wallplates.

1.3 REFERENCE STANDARDS

A. ASTM D709 - Standard Specification for Laminated Thermosetting Materials; 2025.

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

C. NFPA 70E - Standard for Electrical Safety in the Workplace; 2024.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.

B. Sequencing:
   1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
   2. Do not install identification products until final surface finishes and painting are complete.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.

C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation and installation of product.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and shown.

1.7 FIELD CONDITIONS

A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

PART 2 PRODUCTS

2.1 IDENTIFICATION APPLICATIONS

A. Identification for Equipment:
1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
2. In addition to identifying data specific to individual pieces of equipment listed, each equipment identification namplate or label shall include a date of installation in a MM/YYYY format.
a. Switchgear:
1) Identify ampere rating.
2) Identify voltage and phase.
3) Use identification nameplate to identify load(s) served for each branch device. Identify spares and spaces.
b. Switchboards:
1) Identify ampere rating.
2) Identify voltage and phase.
3) Use identification nameplate to identify load(s) served for each branch device. Identify spares and spaces.
c. Panelboards:
1) Identify ampere rating.
2) Identify voltage and phase.
3) Identify power source and circuit number. Include location.
4) Identify main overcurrent protective device. Use identification label for panelboards with a door. For power distribution panelboards without a door, use identification nameplate.
5) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces.
6) For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
d. Transformers:
1) Identify kVA rating.
2) Identify voltage and phase for primary and secondary.
3) Identify power source and circuit number. Include location.
4) Identify load(s) served. Include location.
e. Enclosed switches, circuit breakers, and motor controllers:
1) Identify voltage and phase.
2) Identify power source and circuit number. Include location when not within sight of equipment.
3) Identify load(s) served. Include location.
3. Available Fault Current Documentation: Use identification label to identify the available fault current and date calculations were performed at locations requiring documentation by NFPA 70 including but not limited to the following.
a. Service equipment.
4. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.

a. Minimum Size: 3.5 by 5 inches.
b. Legend: Include orange header that reads "WARNING", followed by the word message "Arc Flash and Shock Hazard; Appropriate PPE Required; Do not operate controls or open covers without appropriate personal protection equipment; Failure to comply may result in injury or death; Refer to NFPA 70E for minimum PPE requirements" or approved equivalent.
c. Service Equipment: Include the following information in accordance with NFPA 70, 110.16.
1) Nominal system voltage.
2) Available fault current.
3) Clearing time of service overcurrent protective device(s).
4) Date label applied.

B. Identification for Conductors and Cables:
1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 05 19.
2. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
a. At each source and load connection.
b. Within boxes when more than one circuit is present.
c. Within equipment enclosures when conductors and cables enter or leave the enclosure.
d. In cable tray, at maximum intervals of 20 feet.
3. Use wire and cable markers to identify connected grounding electrode system components for grounding electrode conductors.
4. Use underground warning tape to identify direct buried cables.

C. Identification for Devices:
1. Wiring Device and Wallplate Finishes: Comply with Section 26 27 26.
2. Use identification label to identify fire alarm system devices.
3. Use identification label to identify serving branch circuit for all receptacles.

D. Identification for Luminaires:
1. Use permanent red dot on luminaire frame to identify luminaires connected to emergency power system.

2.2 IDENTIFICATION NAMEPLATES AND LABELS

A. Identification Nameplates:
1. Manufacturers:
a. Brimar Industries, Inc: www.brimar.com/#sle.
b. Kolbi Pipe Marker Co: www.kolbipipemarkers.com/#sle.
c. Seton Identification Products: www.seton.com/#sle.
d. Substitutions: See Section 01 60 00 - Product Requirements.
2. Materials: Conform to ASTM D709
a. Indoor Clean, Dry Locations: Use plastic nameplates.
b. Outdoor Locations: Use plastic nameplates suitable for exterior use.
3. Plastic Nameplates: Three-layer laminated acrylic with beveled edges; minimum thickness of 1/8 inch; engraved text.
a. Exception: Provide minimum thickness of 1/8 inch when any dimension is greater than 4 inches.
b. Color: Black letters on white background.
4. Letter Size: Use 1/4 inch letters for identifying grouped equipment and loads.
5. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.

B. Identification Labels:
1. Manufacturers:
a. Brady Corporation: www.bradyid.com/#sle.
b. Brother International Corporation: www.brother-usa.com/#sle.
c. Panduit Corp: www.panduit.com/#sle.
d. Substitutions: See Section 01 60 00 - Product Requirements.

2. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
3. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.
   a. Use 3/16 inch black letters on clear background. Use only for identification of individual wall switches and receptacles, control device stations

2.3 WIRE AND CABLE MARKERS

A. Manufacturers:
   1. Brady Corporation: www.bradyid.com/#sle.
   2. Seton Identification Products: www.seton.com.

B. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth type markers suitable for the conductor or cable to be identified.

C. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.

D. Legend: Power source and circuit number or other designation indicated.

E. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.

F. Minimum Text Height: 1/8 inch.

G. Color: Black text on white background unless otherwise indicated.

2.4 UNDERGROUND WARNING TAPE

A. Manufacturers:
   1. Brady Corporation: www.bradyid.com/#sle.
   2. Seton Identification Products: www.seton.com/#sle.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Materials: Use foil-backed detectable type polyethylene tape suitable for direct burial, unless otherwise indicated.

C. Foil-backed Detectable Type Tape: 3 inches wide, with minimum thickness of 5 mil, unless otherwise required for proper detection.

D. Legend: Type of service, continuously repeated over full length of tape.

E. Color:
   1. Tape for Buried Power Lines: Black text on yellow background.
   2. Tape for Buried Communication, Alarm, and Signal Lines: Black text on orange background.

PART 3 EXECUTION

3.1 PREPARATION

A. Clean and degrease surfaces to receive adhesive products according to manufacturer's instructions.

3.2 INSTALLATION

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

B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
   1. Surface-Mounted Equipment: Enclosure front.
   2. Flush-Mounted Equipment: Inside of equipment door.

3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
4. Elevated Equipment: Legible from the floor or working platform.
5. Branch Devices: Adjacent to device.
6. Interior Components: Legible from the point of access.
7. Conductors and Cables: Legible from the point of access.
8. Devices: Outside face of cover.

C. Install identification products centered, level, and parallel with lines of item being identified.

D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing or epoxy cement.

E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.

F. Install underground warning tape above buried lines with one tape per trench at 6 inch(es) below finished grade.
1. At paved areas, install 3 inches below pavement section.

3.3 FIELD QUALITY CONTROL

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

B. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION

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SECTION 26 05 83
WIRING CONNECTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Electrical connections to equipment.

1.2 RELATED REQUIREMENTS

A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.

B. Section 26 05 33.13 - Conduit for Electrical Systems.

C. Section 26 05 33.16 - Boxes for Electrical Systems.

D. Section 26 27 26 - Wiring Devices.

E. Section 26 28 16.16 - Enclosed Switches.

1.3 REFERENCE STANDARDS

A. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (Reaffirmed 2020).

B. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2021.

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

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment furnished under other sections.
   2. Determine connection locations and requirements.

B. Sequencing:
   1. Install rough-in of electrical connections before installation of equipment is required.
   2. Make electrical connections before required start-up of equipment.

1.5 SUBMITTALS

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

B. Product Data: Provide wiring device manufacturer’s catalog information showing dimensions, configurations, and construction.

C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Products: Listed, classified, and labeled as suitable for the purpose intended.

C. 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 MATERIALS

A. Cords and Caps: NEMA WD 6; match receptacle configuration at outlet provided for equipment.
   1. Colors: Comply with NEMA WD 1.
   2. Cord Construction: NFPA 70, Type SO, multiconductor flexible cord with identified equipment grounding conductor, suitable for use in damp locations.
   3. Size: Suitable for connected load of equipment, length of cord, and rating of branch circuit overcurrent protection.

B. Disconnect Switches: As specified in Section 26 28 16.16 and in individual equipment sections.

C. Wiring Devices: As specified in Section 26 27 26.

D. Flexible Conduit: As specified in Section 26 05 33.13.

E. Wire and Cable: As specified in Section 26 05 19.

F. Boxes: As specified in Section 26 05 33.16.

2.2 EQUIPMENT CONNECTIONS

A. Refer to equipment Schedules on drawing for specific requirements for each piece of equipment.:

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that equipment is ready for electrical connection, wiring, and energization.

3.2 ELECTRICAL CONNECTIONS

A. Make electrical connections in accordance with equipment manufacturer's instructions.

B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.

C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.

D. Provide receptacle outlet to accommodate connection with attachment plug.

E. Provide cord and cap where field-supplied attachment plug is required.

F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.

G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.

H. Install terminal block jumpers to complete equipment wiring requirements.

I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.

END OF SECTION

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SECTION 26 09 23
LIGHTING CONTROL DEVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Vacancy sensors.

B. Time switches.

C. Digital load controllers.

1.2 RELATED REQUIREMENTS

A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.

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 33.16 - Boxes for Electrical Systems.

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

F. Section 26 51 00 - Interior Lighting.

1.3 REFERENCE STANDARDS

A. 47 CFR 15 - Radio Frequency Devices; current edition.

B. ANSI C136.24 - American National Standard for Roadway and Area Lighting Equipment—Nonlocking (Button)–Type Photocontrols; 2026.

C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

D. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

E. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

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

G. UL 916 - Energy Management Equipment; Current Edition, Including All Revisions.

H. UL 917 - Clock-Operated Switches; Current Edition, Including All Revisions.

I. UL 2043 - Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate placement of photo sensors for daylighting controls with windows, skylights, and luminaires to achieve optimum operation. Coordinate placement with ductwork, piping, equipment, or other potential obstructions to light level measurement.
   2. Coordinate lighting control device product selections with luminaire characteristics; see Section 26 51 00 and lighting fixture schedule.

B. Sequencing:
1. Do not install lighting control devices until final surface finishes and painting are complete.

1.5 SUBMITTALS

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

B. Product Data: Include ratings, operating modes or sequence of functions, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.
1. Vacancy Sensors: Include detailed motion detection coverage range diagrams.

C. Operation and Maintenance Data: Include detailed information on device programming and setup.

D. Project Record Documents: Record actual installed locations and settings for lighting control devices.

1.6 QUALITY ASSURANCE

A. Comply with NFPA 70.

1.7 DELIVERY, STORAGE, AND PROTECTION

A. Store products in clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.8 FIELD CONDITIONS

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

1.9 WARRANTY

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

PART 2 PRODUCTS

2.1 LIGHTING CONTROL DEVICES - GENERAL REQUIREMENTS

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

B. Unless specifically indicated as excluded, provide components necessary for complete operating system including, but not limited to, conduit, wiring, connectors, hardware, and accessories.

2.2 VACANCY SENSORS

A. Manufacturers:
1. SENSORWORX: sensorworx.com/#sle.
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. All Vacancy Sensors:
1. Description: Factory-assembled commercial specification grade devices for indoor use capable of sensing both major motion, such as walking, and minor motion, such as small desktop level movements, according to published coverage areas, for automatic control of load indicated.
2. Dual Technology Vacancy Sensors: Field configurable turn-on and hold-on activation with settings for activation by either or both sensing technologies.
3. Passive Infrared Lens Field of View: Field customizable by addition of factory masking material, adjustment of integral blinders, or similar means to block motion detection in selected areas.
4. Sensitivity: Field adjustable.

5. Adaptive Technology: Field selectable; capable of self-adjusting sensitivity and time delay according to conditions.
6. Integral Photocell: For field selectable and adjustable inhibition of automatic turn-on of load when ambient lighting is above selected level.
7. Load Rating for Line Voltage Vacancy Sensors: As required to control the load indicated on drawings.
8. Provide with auxilary relay: SPDT dry contacts.

C. Ceiling Mounted Vacancy Sensors:
1. All Ceiling Mounted Vacancy Sensors:
   a. Unless otherwise indicated or required to control load indicated on drawings, provide .
   b. Finish: White unless otherwise indicated.
   c. Provide with auxilary relay: SPDT dry contact
2. Passive Infrared/Ultrasonic Dual Technology Ceiling Mounted Vacancy Sensors:
   a. Standard Range Sensors: Capable of detecting motion within area of 450 square feet at mounting height of 9 feet, with field of view of 360 degrees.
      1) Products:
         (a) Hubbell NXOS series.
         (b) Substitutions: See Section 01 60 00 - Product Requirements.

D. Power Packs for Low Voltage Vacancy Sensors:
1. Description: Plenum rated, self-contained low voltage class 2 transformer and relay compatible with specified low voltage vacancy sensors for switching of line voltage loads.
2. Load Rating:
   a. Incandescent Load: Not less than 15 A.
   b. Fluorescent Load: Not less than 20 A.
   c. Motor Load: Not less than 1 HP.
   d. Receptacle Load: Not less than 20A.

2.3 TIME SWITCHES

A. Manufacturers:
1. Intermatic, Inc: www.intermatic.com/#sle.
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Digital Electronic Time Switches:
1. Description: Factory-assembled solid state programmable controller with LCD display, listed and labeled as complying with UL 916 or UL 917.
2. Program Capability:
   a. 7-Day Time Switches: Single channel, capable of different schedule for each day of week with additional holiday schedule available to override normal schedule for selected days.
3. Schedule Capacity: Not less than 16 programmable on/off operations.
4. Provide automatic daylight savings time and leap year compensation.
5. Provide power outage backup to retain programming and maintain clock.
6. Manual override: Capable of overriding current schedule both permanently and temporarily until next scheduled event.
7. Input Supply Voltage: As indicated on the drawings.
8. Provide lockable enclosure; environmental type per NEMA EN 10250 as specified for the following installation locations:

2.4 DIGITAL LOAD CONTROLLERS

A. System Description:
1. Stand-alone system, including interconnected modules and accessories, for lighting and plug load low-voltage control as indicated on reviewed shop drawings.

2. Product standard system configurations preconfigured out of box, plug-and-play, automatically self-addressing devices for communications, and without need to field configure or program features, or requiring device setting adjustments. LEDs on unit indicate operation and troubleshooting without software intervention.
3. Provide quantity and configuration of power and slave packs, communication modules, and load expansion modules, including associated wiring, wired and wireless components, and accessories to control loads indicated.

B. General Requirements:
1. Listed for powering and controlling line-voltage loads, power packs, contactors, relays, and other lighting control devices.
2. Input Supply Voltage: Dual rated for 120/277 VAC.
3. Cabling Terminations:
4. Provide UL 2043 plenum rated control unit with self-contained relay(s) and low-voltage class 2 transformer, compatible with specified wired and wireless sensors, components, and ballasts/drivers.
   a. Comply with NFPA 70 for use in plenum spaces.
   b. Provide UL 2043 plenum rating for associated system control components for control indicated.
5. Surface Mounting: Standard junction box attachments.
6. Provide one auxiliary contact closure output where indicated.
7. Control Inputs:
   a. Digital: Two.
   b. Analog: One.
8. Output Control Capability:
   a. Single Zone Switching Modules: One programmable channel.
   b. Multi-Zone Switching Modules: Up to three separately programmable channels.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that openings for outlet boxes are neatly cut and will be completely covered by devices or wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to lighting control devices.

F. Verify that service voltage and ratings of lighting control devices are appropriate for service voltage and load requirements at location to be installed.

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

3.2 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.3 INSTALLATION

A. Install lighting control devices in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Coordinate locations of outlet boxes as required for installation of lighting control devices; see Section 26 05 33.16.
   1. Mounting Heights: Unless otherwise indicated, as follows:
      a. Wall Switch Vacancy Sensors: 48 inches above finished floor.
   2. Orient outlet boxes for vertical installation of lighting control devices unless otherwise indicated.
   3. Locate wall switch vacancy sensors on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.

C. Maintain separation of remote-control, signaling, and power-limited circuits.
   1. See manufacturer instructions and Section 26 05 19 for control wiring conductors, wiring methods, and identification requirements.

D. Install lighting control devices in accordance with manufacturer's instructions.

E. Unless otherwise indicated, connect lighting control device grounding terminal or conductor to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

F. Install lighting control devices plumb and level, and held securely in place.

G. Provide required supports; see Section 26 05 29.

H. Where applicable, install lighting control devices and associated wall plates to fit completely flush to mounting surface with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

I. Identify lighting control devices; see Section 26 05 53.

J. Vacancy Sensor Locations:
   1. Location Adjustments: Locations indicated are diagrammatic and only intended to indicate which rooms or areas require devices. Provide quantity and locations as required for complete coverage of respective room or area based on manufacturer's recommendations for installed devices.

K. Unless otherwise indicated, install power packs for lighting control devices above accessible ceiling or above access panel in inaccessible ceiling near sensor location.

L. Where indicated, install separate compatible wall switches for manual control interface with lighting control devices or associated power packs.

M. Unless otherwise indicated, install switches on load side of power packs so that switch does not turn off power pack.

3.4 FIELD QUALITY CONTROL

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

B. Inspect each lighting control device for damage and defects.

C. Test vacancy sensors to verify proper operation, including time delays and ambient light thresholds where applicable. Verify optimal coverage for entire room or area.

D. Test time switches to verify proper operation.

E. Correct wiring deficiencies and replace damaged or defective conductors, cables, and lighting control devices.

3.5 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. Adjust vacancy sensor settings to minimize undesired activations while optimizing energy savings, and to achieve desired function as indicated or as directed by Architect.

C. Adjust position of directional vacancy sensors and outdoor motion sensors to achieve optimal coverage as required.

D. Where indicated or as directed by Architect, install factory masking material or adjust integral blinders on passive infrared (PIR) and dual technology vacancy sensor lenses to block undesired motion detection.

E. Adjust time switch settings to achieve desired operation schedule as indicated or as directed by Architect. Record settings in written report to be included with submittals.

3.6 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.7 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 lighting control devices to Architect, and correct deficiencies or make adjustments as directed.

D. Training: Train Owner's personnel on operation, adjustment, programming, and maintenance of lighting control devices.
   1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
   2. Provide minimum of two hours of training.
   3. Instructor: Qualified contractor familiar with the project and with sufficient knowledge of installed lighting control devices.
   4. Location: At project site.

END OF SECTION

SECTION 26 21 00
LOW-VOLTAGE ELECTRICAL SERVICE ENTRANCE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Electrical service requirements.

1.2 RELATED REQUIREMENTS

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

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

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

1.3 REFERENCE STANDARDS

A. IEEE C2 - National Electrical Safety Code(R) (NESC(R)); 2023.

B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

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

1.4 ADMINISTRATIVE REQUIREMENTS

A. No later than two weeks following date of the Agreement, notify Utility Company of anticipated date of service.

B. Coordination:
   1. Verify the following with Utility Company representative:
      a. Utility Company requirements, including division of responsibility.
      b. Exact location and details of utility point of connection.
      c. Utility easement requirements.
      d. Utility Company charges associated with providing service.
   2. Coordinate the work with other trades to avoid placement of other utilities or obstructions within the spaces dedicated for electrical service and associated equipment.
   3. Coordinate arrangement of service entrance equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

C. Arrange for Utility Company to provide permanent electrical service. Prepare and submit documentation required by Utility Company.

D. Utility Company charges associated with providing permanent service to be paid by Owner.

E. Preinstallation Meeting: Convene one week prior to commencing work of this section to review service requirements and details with Utility Company representative.

F. Scheduling:
   1. Arrange for inspections necessary to obtain Utility Company approval of installation.

1.5 SUBMITTALS

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

1.6 QUALITY ASSURANCE

A. Comply with the following:
   1. IEEE C2 (National Electrical Safety Code).
   2. NFPA 70 (National Electrical Code).
   3. The requirements of the Utility Company.

PART 2 PRODUCTS

2.1 ELECTRICAL SERVICE REQUIREMENTS

A. Provide new electrical service consisting of all required conduits, conductors, equipment, metering provisions, supports, accessories, etc. as necessary for connection between Utility Company point of supply and service entrance equipment.

B. Electrical Service Characteristics: As indicated on drawings.

C. Utility Company: NYSEG.

D. Division of Responsibility: As indicated on drawings.

E. Products Furnished by Contractor: Comply with Utility Company requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that ratings and configurations of service entrance equipment are consistent with the indicated requirements.

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

3.2 INSTALLATION

A. Install products in accordance with manufacturer's instructions and Utility Company requirements.

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

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

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

E. Provide grounding and bonding for service entrance equipment in accordance with Section 26 05 26.

F. Identify service entrance equipment, including main service disconnect(s) in accordance with Section 26 05 53.

END OF SECTION

SECTION 26 24 16
PANELBOARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Power distribution panelboards.

B. Lighting and appliance panelboards.

C. Overcurrent protective devices for panelboards.

1.2 RELATED REQUIREMENTS

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

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

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

1.3 REFERENCE STANDARDS

A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service; 2013e, with Amendments (2022).

B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

C. NECA 407 - Standard for Installing and Maintaining Panelboards; 2025.

D. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

E. NEMA PB 1 - Panelboards; 2011.

F. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 1000V or Less; 2023.

G. NETA ATS - Standard for Acceptance Testing Specifications for Electrical Power Equipment And Systems; 2025.

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

I. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

J. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.

K. UL 67 - Panelboards; Current Edition, Including All Revisions.

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

M. UL 869A - Reference Standard for Service Equipment; Current Edition, Including All Revisions.

N. UL 943 - Ground-Fault Circuit-Interrupters; Current Edition, Including All Revisions.

O. UL 1699 - Arc-Fault Circuit-Interrupters; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
3. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted panelboards where indicated.
4. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
5. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 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 panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.

C. Project Record Documents: Record actual installed locations of panelboards and actual installed circuiting arrangements.

D. Maintenance Data: Include information on replacement parts and recommended maintenance procedures and intervals.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 01 60 00 - Product Requirements, for additional provisions.
2. Panelboard Keys: Two of each different key.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

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

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

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store panelboards in accordance with manufacturer's instructions and NECA 407.

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

C. Handle carefully in accordance with manufacturer's written instructions to avoid damage to panelboard internal components, enclosure, and finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Schneider Electric; Square D Products: www.schneider-electric.us/#sle.

B. Source Limitations: Provide panelboards and associated components produced by same manufacturer as other electrical distribution equipment used for project and obtained from a single supplier.

2.2 PANELBOARDS - GENERAL REQUIREMENTS

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

B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
   1. Altitude: Less than 6,600 feet.
   2. Ambient Temperature:
      a. Panelboards Containing Circuit Breakers: Between 23 degrees F and 104 degrees F.

C. Short Circuit Current Rating:
   1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.

D. Panelboards Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.

E. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation.

F. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.

G. Bussing: Sized in accordance with UL 67 temperature rise requirements.
   1. Provide fully rated neutral bus unless otherwise indicated, with a suitable lug for each feeder or branch circuit requiring a neutral connection.
   2. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.

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

I. Enclosures: Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E.
   1. Environment Type per NEMA EN 10250: Unless otherwise indicated, as specified for the following installation locations:
      a. Indoor Clean, Dry Locations: Type 1.
      b. Outdoor Locations: Type 3R.
   2. Boxes: Galvanized steel unless otherwise indicated.
      a. Provide wiring gutters sized to accommodate the conductors to be installed.
   3. Fronts:
      a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
      b. Fronts for Flush-Mounted Enclosures: Overlap boxes on all sides to conceal rough opening.
      c. Finish for Painted Steel Fronts: Manufacturer's standard grey unless otherwise indicated.
   4. Lockable Doors: All locks keyed alike unless otherwise indicated.

J. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.

2.3 POWER DISTRIBUTION PANELBOARDS

A. Description: Panelboards complying with NEMA PB 1, power and feeder distribution type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.

B. Conductor Terminations:
   1. Main and Neutral Lug Material: Copper, suitable for terminating copper conductors only.
   2. Main and Neutral Lug Type: Mechanical.

C. Bussing:

1. Phase and Neutral Bus Material: Copper.
2. Ground Bus Material: Copper.

D. Circuit Breakers:
1. Provide bolt-on type or plug-in type secured with locking mechanical restraints.
2. Provide thermal magnetic circuit breakers unless otherwise indicated.

E. Enclosures:
1. Provide surface-mounted enclosures as indicated.
2. Fronts: Provide door-in-door trim with hinged cover for access to load terminals and wiring gutters, and separate lockable hinged door with concealed hinges for access to overcurrent protective device handles without exposing live parts.
3. Provide metal circuit directory holder mounted on inside of door.

2.4 LIGHTING AND APPLIANCE PANELBOARDS

A. Description: Panelboards complying with NEMA PB 1, lighting and appliance branch circuit type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.

B. Conductor Terminations:
1. Main and Neutral Lug Material: Copper, suitable for terminating copper conductors only.
2. Main and Neutral Lug Type: Mechanical.

C. Bussing:
1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.
2. Phase and Neutral Bus Material: Copper.
3. Ground Bus Material: Copper.
a. Provide insulated ground bus where indicated.

D. Circuit Breakers: Thermal magnetic bolt-on type unless otherwise indicated.

E. Enclosures:
1. Provide surface-mounted or flush-mounted enclosures as indicated.
2. Fronts: Provide door-in-door trim with hinged cover for access to load terminals and wiring gutters, and separate lockable hinged door with concealed hinges for access to overcurrent protective device handles without exposing live parts.
3. Provide metal circuit directory holder mounted on inside of door.

2.5 OVERCURRENT PROTECTIVE DEVICES

A. Molded Case Circuit Breakers:
1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
2. Interrupting Capacity:
a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated, but not less than:
1) 10,000 rms symmetrical amperes at 240 VAC or 208 VAC.
2) 14,000 rms symmetrical amperes at 480 VAC.
b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
3. Conductor Terminations:
a. Provide mechanical lugs unless otherwise indicated.
b. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
a. Provide field-adjustable magnetic instantaneous trip setting for circuit breaker frame sizes 225 amperes and larger.

5. Electronic Trip Circuit Breakers: Furnish solid state, microprocessor-based, true rms sensing trip units.
   a. Provide the following field-adjustable trip response settings:
      1) Long time pickup, adjustable by setting dial.
      2) Long time delay.
      3) Short time pickup and delay.
      4) Ground fault pickup and delay where ground fault protection is indicated.
6. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
7. Provide the following circuit breaker types where indicated:
   a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.
   b. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Combination type listed as complying with UL 1699.
8. Provide type HACR for air conditioning equipment circuits.
9. Do not use tandem circuit breakers.
10. Provide the following features and accessories where indicated or where required to complete installation:
    a. Shunt Trip: Provide coil voltage as required for connection to indicated trip actuator.
    b. Handle Pad-Lock Provision: For locking circuit breaker handle in OFF position.

2.6 SOURCE QUALITY CONTROL

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

B. Factory test panelboards according to NEMA PB 1.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.

C. Verify that mounting surfaces are ready to receive panelboards.

D. 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 panelboards in accordance with NECA 407 and NEMA PB 1.1.

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

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

F. Install panelboards plumb.

G. Install flush-mounted panelboards so that trims fit completely flush to wall with no gaps and rough opening completely covered.

H. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches above the floor or working platform.

I. Provide minimum of six spare 1 inch trade size conduits out of each flush-mounted panelboard stubbed into accessible space above ceiling.

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

K. Install all field-installed branch devices, components, and accessories.

L. Height: 6 feet to top of panelboard; install panelboards taller than 6 feet with bottom no more than 4 inches above floor.

M. Provide filler plates to cover unused spaces in panelboards.

N. Identify panelboards in accordance with Section 26 05 53.

O. Provide typed circuit directory for each branch circuit panelboard. Revise directory to reflect circuiting changes required to balance phase loads.

3.3 FIELD QUALITY CONTROL

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

B. Perform field inspection and testing in accordance with Section 01 40 00.

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

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

E. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for all main circuit breakers. Tests listed as optional are not required.

F. Test GFCI circuit breakers to verify proper operation.

G. Test AFCI circuit breakers to verify proper operation.

H. Test shunt trips to verify proper operation.

I. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.4 ADJUSTING

A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.

B. Adjust alignment of panelboard fronts.

C. Load Balancing: For each panelboard, rearrange circuits such that the difference between each measured steady state phase load does not exceed 20 percent and adjust circuit directories accordingly. Maintain proper phasing for multi-wire branch circuits.

3.5 CLEANING

A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.

B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

SECTION 26 27 26
WIRING DEVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wall switches.

B. Wall dimmers.

C. Fan speed controllers.

D. Receptacles.

E. Wall plates and covers.

1.2 RELATED REQUIREMENTS

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

B. Section 26 05 33.16 - Boxes for Electrical Systems.

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

D. Section 26 09 23 - Lighting Control Devices: Devices for automatic control of lighting, including occupancy sensors, in-wall time switches, and in-wall interval timers.

1.3 REFERENCE STANDARDS

A. FS W-C-596 - Connector, Electrical, Power, General Specification for; 2014h (Validated 2022).

B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification); 2017g (Validated 2023).

C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

D. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

E. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (Reaffirmed 2020).

F. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2021.

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

H. UL 20 - General-Use Snap Switches; Current Edition, Including All Revisions.

I. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.

J. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.

K. UL 943 - Ground-Fault Circuit-Interrupters; Current Edition, Including All Revisions.

L. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

M. UL 1917 - Solid-State Fan Speed Controls; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
3. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
4. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

B. Sequencing:
1. Do not install wiring devices until final surface finishes and painting are complete.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Products: Listed, classified, and labeled as suitable for the purpose intended.

C. Product Evaluation and Listing Organization Qualifications: Organization engaged in evaluation of products and services, including those recognized by OSHA as Nationally Recognized Testing Laboratories (NRTL), and acceptable to authorities having jurisdiction.

1.7 DELIVERY, STORAGE, AND PROTECTION

A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.1 WIRING DEVICES - GENERAL REQUIREMENTS

A. Provide wiring devices suitable for intended use with ratings adequate for load served.

B. Wiring Device Applications:
1. Receptacles Installed Outdoors or in Damp or Wet Locations: Use weather-resistant GFCI receptacles with weatherproof covers.
2. Provide GFCI protection for:
a. Receptacles installed within 6 feet of sinks.
b. Receptacles installed in kitchens.
c. Receptacles serving electric drinking fountains.
3. Single Receptacles Installed on Individual Branch Circuits: Provide receptacle ampere rating equal to branch circuit rating.

C. Wiring Device Finishes:
1. Provide wiring device finishes as described below, unless otherwise indicated.
2. Wiring Devices, Unless Otherwise Indicated: Color as selected by Architect with stainless steel wall plate.

2.2 WALL SWITCHES

A. Manufacturers:
1. Hubbell Incorporated: www.hubbell.com/#sle.
2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
3. Substitutions: See Section 01 60 00 - Product Requirements.

B. General Requirements: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20 and where applicable, FS W-S-896; types as indicated on the drawings.
1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.

C. Standard Wall Switches: Industrial specification grade, 20 A, 120/277 V with standard toggle type switch actuator and maintained contacts; single pole single throw, double pole single throw, three way, or four way as indicated on the drawings.

2.3 WALL DIMMERS

A. Manufacturers:
1. Leviton Manufacturing Company, Inc; IP710-LFZ series: www.leviton.com/#sle.
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. General Requirements: Solid-state with continuous full-range even control following square law dimming curve, integral radio frequency interference filtering, power failure preset memory, air gap switch accessible without removing wall plate, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 1472; types and ratings suitable for load controlled as indicated on the drawings.

C. Control: Slide control type with separate on/off switch.

D. Power Rating, Unless Otherwise Indicated or Required to Control the Load Indicated on the Drawings:
1. LED: 1200 VA.

2.4 FAN SPEED CONTROLLERS

A. Description: 120 V AC, solid-state, full-range variable speed, slide control type with separate on/off switch, with integral radio frequency interference filtering, fan noise elimination circuitry, power failure preset memory, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 1917.
1. Current Rating: 1.5 A unless otherwise indicated or required to control the load indicated on the drawings.

2.5 RECEPTACLES

A. Manufacturers:
1. Hubbell Incorporated: www.hubbell.com/#sle.
2. Leviton Manufacturing Company, Inc: www.leviton.com/#sle.
3. Lutron Electronics Company, Inc; Designer Style: www.lutron.com/#sle.
4. Pass & Seymour, a brand of Legrand North America, Inc: www.legrand.us/#sle.
5. Substitutions: See Section 01 60 00 - Product Requirements.

B. General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings.
1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
2. NEMA configurations specified are according to NEMA WD 6.

C. Convenience Receptacles:
1. Standard Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R; single or duplex as indicated on the drawings.

2. Weather Resistant Convenience Receptacles: Industrial specification grade, 20A, 125V, NEMA 5-20R, listed and labeled as weather resistant type complying with UL 498 Supplement SD suitable for installation in damp or wet locations; single or duplex as indicated on the drawings.

D. GFCI Receptacles:
1. General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
a. Provide test and reset buttons of same color as device.
2. Standard GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style.
3. Weather Resistant GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as weather resistant type complying with UL 498 Supplement SD suitable for installation in damp or wet locations.

2.6 WALL PLATES AND COVERS

A. Wall Plates: Comply with UL 514D.
1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
2. Size: Standard.
3. Screws: Metal with slotted heads finished to match wall plate finish.

B. Basis of Design: Stainless Steel Wall Plates: Brushed satin finish, Type 302 stainless steel.
1. Material type and color to be selected and approved by Owner and Architect.

C. Weatherproof Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed. Hubbell #WP8M or approved equal.

D. Weatherproof Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type. Hubbell #WP26M or approved equal.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that wall openings are neatly cut and will be completely covered by wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

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

3.2 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.3 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of wiring devices provided under this section.
   1. Mounting Heights: Unless otherwise indicated, as follows:
      a. Wall Switches: 48 inches above finished floor.
      b. Wall Dimmers: 48 inches above finished floor.
      c. Fan Speed Controllers: 48 inches above finished floor.
      d. Receptacles: 18 inches above finished floor or 6 inches above counter.
   2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
   3. Where multiple receptacles, wall switches, or wall dimmers are installed at the same location and at the same mounting height, gang devices together under a common wall plate.
   4. Locate wall switches on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.
   5. Locate receptacles for electric drinking fountains concealed behind drinking fountain according to manufacturer's instructions.

C. Install wiring devices in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.

F. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

G. Provide GFCI receptacles with integral GFCI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.

H. Install wiring devices plumb and level with mounting yoke held rigidly in place.

I. Install wall switches with OFF position down.

J. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.

K. Do not share neutral conductor on branch circuits utilizing wall dimmers.

L. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.

M. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

N. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

O. Identify wiring devices in accordance with Section 26 05 53.

3.4 FIELD QUALITY CONTROL

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

B. Inspect each wiring device for damage and defects.

C. Operate each wall switch with circuit energized to verify proper operation.

D. Test each receptacle to verify operation and proper polarity.

E. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.

F. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.5 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. Adjust presets for wall dimmers according to manufacturer's instructions as directed by Architect.

3.6 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION

SECTION 26 28 16.16
ENCLOSED SWITCHES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Enclosed safety switches.

1.2 RELATED REQUIREMENTS

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

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

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

1.3 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

C. NEMA BS 31047 - Heavy Duty Enclosed and Dead-Front Switches (600 Volts Maximum); 2013 (Reaffirmed 2023).

D. NETA ATS - Standard for Acceptance Testing Specifications for Electrical Power Equipment And Systems; 2025.

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

F. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

G. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.

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

I. UL 869A - Reference Standard for Service Equipment; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the work with other trades. Avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and within working clearances for electrical equipment required by NFPA 70.
   2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
   3. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
   4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 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 enclosed switches and other installed components and accessories.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

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

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

1.7 DELIVERY, STORAGE, AND HANDLING

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

B. Handle carefully in accordance with manufacturer's written instructions to avoid damage to enclosed switch internal components, enclosure, and finish.

1.8 FIELD CONDITIONS

A. Maintain ambient temperature between -22 degrees F and 104 degrees F during and after installation of enclosed switches.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Eaton Corporation; Cutler Hammer: www.eaton.com/#sle.

B. Schneider Electric; Square D Products: www.schneider-electric.us/#sle.

C. Siemens Industry, Inc: www.usa.siemens.com/#sle.

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

E. Source Limitations: Provide enclosed switches and associated components produced by same manufacturer as other electrical distribution equipment used for project and obtained from single supplier.

2.2 ENCLOSED SAFETY SWITCHES

A. Description: Quick-make, quick-break enclosed safety switches listed and labeled as complying with UL 98; heavy duty; ratings, configurations, and features as indicated on the drawings.

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

C. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
   1. Altitude: Less than 6,600 feet.
   2. Ambient Temperature: Between -22 degrees F and 104 degrees F.

D. Horsepower Rating: Suitable for connected load.

E. Voltage Rating: Suitable for circuit voltage.

F. Enclosed Safety Switches Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.

G. Provide with switch blade contact position that is visible when the cover is open.

H. Fuse Clips for Fusible Switches: As required to accept fuses indicated.

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

J. Provide solidly bonded equipment ground bus in each enclosed safety switch, with a suitable lug for terminating each equipment grounding conductor.

K. Enclosures: Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E.
   1. Environment Type per NEMA EN 10250: Unless otherwise indicated, as specified for the following installation locations:
      a. Indoor Clean, Dry Locations: Type 1.
      b. Outdoor Locations: Type 3R.
   2. Finish for Painted Steel Enclosures: Manufacturer's standard, factory applied grey unless otherwise indicated.

L. Provide safety interlock to prevent opening the cover with the switch in the ON position with capability of overriding interlock for testing purposes.

M. Heavy Duty Switches:
   1. Comply with NEMA BS 31047.
   2. Conductor Terminations:
      a. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
   3. Provide externally operable handle with means for locking in the OFF position, capable of accepting three padlocks.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that the ratings of the enclosed switches are consistent with the indicated requirements.

C. Verify that mounting surfaces are ready to receive enclosed safety switches.

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

3.2 INSTALLATION

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

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

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

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

E. Install enclosed switches plumb.

F. Except where indicated to be mounted adjacent to the equipment they supply, mount enclosed switches such that the highest position of the operating handle does not exceed 79 inches above the floor or working platform.

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

H. Provide fuses complying with Section 26 28 13 for fusible switches as indicated or as required by equipment manufacturer's recommendations.

I. Identify enclosed switches in accordance with Section 26 05 53.

3.3 FIELD QUALITY CONTROL

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

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

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

D. Correct deficiencies and replace damaged or defective enclosed safety switches or associated components.

3.4 ADJUSTING

A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.

3.5 CLEANING

A. Clean dirt and debris from switch enclosures and components according to manufacturer's instructions.

B. Repair scratched or marred exterior surfaces to match original factory finish.

END OF SECTION

SECTION 26 51 00
INTERIOR LIGHTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Interior luminaires.

B. Emergency power supply units.

1.2 RELATED REQUIREMENTS

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

B. Section 26 05 33.16 - Boxes for Electrical Systems.

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

D. Section 26 27 26 - Wiring Devices: Manual wall switches and wall dimmers.

1.3 REFERENCE STANDARDS

A. NECA/IESNA 500 - Standard for Installing Indoor Commercial Lighting Systems; 2025.

B. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; 2006.

C. NEMA LE 4 - Recessed Luminaires, Ceiling Compatibility; 2023.

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

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

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations.
   2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
   3. Notify Architect of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.

C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

D. Operation and Maintenance Data: Instructions for each product including information on replacement parts.

E. Project Record Documents: Record actual connections and locations of luminaires and any associated remote components.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

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

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

1.7 DELIVERY, STORAGE, AND PROTECTION

A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting), NECA/IESNA 502 (industrial lighting), and manufacturer's written instructions.

B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.8 WARRANTY

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

PART 2 PRODUCTS

2.1 LUMINAIRE TYPES

A. Furnish products as indicated in luminaire schedule included on the drawings.

2.2 LUMINAIRES

A. Provide products that comply with requirements of NFPA 70.

B. Provide products that are listed and labeled as complying with UL 1598, where applicable.

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

D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.

F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

G. Recessed Luminaires:
1. Ceiling Compatibility: Comply with NEMA LE 4.
2. Luminaires Recessed in Sloped Ceilings: Provide suitable sloped ceiling adapters.

2.3 EMERGENCY POWER SUPPLY UNITS

A. Description: Self-contained emergency power supply units suitable for use with indicated luminaires, complying with NFPA 101 and applicable state and local codes, and listed and labeled as complying with UL 924.

B. Compatibility:
   1. Drivers: Compatible standard, energy saving, and dimming AC LED drivers, including those with end of lamp life shutdown circuits.

C. Operation: Upon interruption of normal power source, solid-state control automatically switches connected lamps to emergency power supply for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source.

D. Diagnostics: Provide accessible and visible multi-chromatic combination test switch/indicator light to display charge, test, and diagnostic status and to manually activate emergency operation.

2.4 ACCESSORIES

A. Chain hang pendant luminaires in utilitarian spaces.

B. Provide accessory plaster frames for luminaires recessed in plaster ceilings.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.

C. Verify that suitable support frames are installed where required.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.

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

3.2 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.3 INSTALLATION

A. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of luminaires provided under this section.

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

C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).

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

E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

F. Suspended Ceiling Mounted Luminaires:

1. Do not use ceiling tiles to bear weight of luminaires.
2. Do not use ceiling support system to bear weight of luminaires unless ceiling support system is certified as suitable to do so.
3. Secure surface-mounted and recessed luminaires to ceiling support channels or framing members or to building structure.
4. Secure pendant-mounted luminaires to building structure.
5. Secure lay-in luminaires to ceiling support channels using listed safety clips at four corners.
6. In addition to ceiling support wires, provide two galvanized steel safety wire(s), minimum 12 gauge, connected from opposing corners of each recessed luminaire to building structure.
7. See appropriate Division 9 section where suspended grid ceiling is specified for additional requirements.

G. Recessed Luminaires:
1. Install trims tight to mounting surface with no visible light leakage.
2. Non-IC Rated Luminaires: Maintain required separation from insulation and combustible materials according to listing.

H. Suspended Luminaires:
1. Unless otherwise indicated, specified mounting heights are to bottom of luminaire.
2. Install using the suspension method indicated, with support lengths and accessories as required for specified mounting height.
3. Provide minimum of two supports for each luminaire equal to or exceeding 4 feet nominal length, with no more than 4 feet between supports.
4. Install canopies tight to mounting surface.

I. Wall-Mounted Luminaires: Unless otherwise indicated, specified mounting heights are to center of luminaire.

J. Install accessories furnished with each luminaire.

K. Bond products and metal accessories to branch circuit equipment grounding conductor.

L. Fluorescent Emergency Power Supply Units:

3.4 FIELD QUALITY CONTROL

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

B. Inspect each product for damage and defects.

C. Operate each luminaire after installation and connection to verify proper operation.

D. Test self-powered exit signs and emergency lighting units to verify proper operation upon loss of normal power supply.

E. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Architect.

3.5 ADJUSTING

A. Aim and position adjustable luminaires to achieve desired illumination as indicated or as directed by Architect. Secure locking fittings in place.

B. Aim and position adjustable emergency lighting unit lamps to achieve optimum illumination of egress path as required or as directed by Architect or authority having jurisdiction.

3.6 CLEANING

A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.7 CLOSEOUT ACTIVITIES

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

B. Just prior to Substantial Completion, replace all lamps that have failed.

3.8 PROTECTION

A. Protect installed luminaires from subsequent construction operations.

3.9 ATTACHMENTS

A. Luminaire schedule located on contract drawings.

END OF SECTION

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SECTION 26 56 00
EXTERIOR LIGHTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Exterior luminaires.

1.2 RELATED REQUIREMENTS

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

B. Section 26 05 33.16 - Boxes for Electrical Systems.

1.3 REFERENCE STANDARDS

A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

B. NECA/IESNA 501 - Standard for Installing Exterior Lighting Systems; 2000 (Reaffirmed 2006).

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

D. UL 1598 - Luminaires; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, weight, effective projected area (EPA), and installed accessories; include model number nomenclature clearly marked with all proposed features.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Receive, handle, and store products according to NECA/IESNA 501 and manufacturer's written instructions.

B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.8 WARRANTY

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

PART 2 PRODUCTS

2.1 LUMINAIRE TYPES

A. Furnish products as indicated in luminaire schedule included on the drawings.

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

2.2 LUMINAIRES

A. Provide products that comply with requirements of NFPA 70.

B. Provide products that are listed and labeled as complying with UL 1598, where applicable.

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

D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, poles, foundations, supports, trims, accessories, etc. as necessary for a complete operating system.

F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.

C. Verify that suitable support frames are installed where required.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.

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

3.2 INSTALLATION

A. Coordinate locations of outlet boxes provided under Section 26 05 33.16 as required for installation of luminaires provided under this section.

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

C. Install luminaires in accordance with NECA/IESNA 501.

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

E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

F. Install accessories furnished with each luminaire.

G. Bond products and metal accessories to branch circuit equipment grounding conductor.

H. Install lamps in each luminaire.

END OF SECTION

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SECTION 28 31 00
ADDRESSABLE FIRE ALARM SYSTEM

PART 1 GENERAL

1.1 DESCRIPTION OF WORK:

A. Provide complete new fully functioning Fire Alarm System in it's entirety inclusive of all required wiring, conduit, peripherals, digital communicators, power supplies, modules, annunciators, and controls.

1.2 SECTION INCLUDES:

A. This specification describes an addressable Fire Detection and alarm signaling system. The control panel shall be intelligent device addressable, analog detecting, low voltage and modular, with digital communication techniques, in full compliance with all applicable codes and standards. The features and capacities described in this specification are required as a minimum for this project and shall be furnished by the successful contractor.

B. The system shall be in full compliance with National and Local Codes.

C. The system shall include all required hardware, raceways, interconnecting wiring and software to accomplish the requirements of this specification and the contract drawings, whether or not specifically itemized herein.

D. All equipment furnished shall be new and the latest state of the art products of a single manufacturer, engaged in the manufacturing and sale of analog fire detection devices for over ten years.

E. The system as specified shall be supplied, installed, tested and approved by the local Authority Having Jurisdiction, and turned over to the owner in an operational condition.

F. In the interest of job coordination and responsibilities the installing contractor shall contract with a single supplier for fire alarm equipment, engineering, programming, inspection and tests, and shall be capable of providing a “UL Listing Certificate” for the complete system.

G. The system specified shall be that which meets the project requirements. Other systems shall be submitted 10 days prior to bid date for approval by the Engineer. All system approved shall meet all the requirements spelled out in this specification. System approval shall be in writing by the Engineer and a copy shall be submitted with the system submittals.

1.3 DEFINITIONS

A. ASME: American Society of Mechanical Engineers

B. FACP: Fire alarm control panel.

C. FM: FM Global (Factory Mutual)

D. Furnish: To supply the stated equipment or materials.

E. Install: To set in position and connect or adjust for use.

F. LED: Light-emitting diode.

G. NCC: Network Command Center

H. NFPA: National Fire Protection Association. Definitions in NFPA 72 apply to fire alarm terms used in this Section.

I. NICET: National Institute for Certification in Engineering Technologies.

J. Provide: To furnish and install the stated equipment or materials.

K. UL: Underwriters Laboratories

1.4 SYSTEM DESCRIPTION

A. The system shall be a complete, electrically supervised fire detection and notification system, with a microprocessor based operating system having the following capabilities, features, and capacities:
   1. Support of mobile test system capable of providing point test reports in NFPA standard format without manual report entries.
   2. System shall provide an output port for monitoring purposes by external systems. Communications to an external system shall be RS-232 or RS-485 communications.
   3. Up to 16 nodes shall be networkable in a peer-to-peer configuration.
   4. Communications between network nodes, each supporting an interactive, self-standing, intelligent local control panel, with system wide display. Any network node shall be capable of supporting a local system with the same capacities and features specified herein.
   5. The local system shall provide status indicators and control switches for all of the following functions:
      a. Audible and visual notification alarm circuit zone control.
      b. Status indicators for sprinkler system water-flow and valve supervisory devices.
      c. Any additional status or control functions as indicated on the drawings, including but not limited to; emergency generator functions, fire pump functions, door unlocking and security with bypass capabilities.

1.5 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with NFPA 72 and all contract documents and specification requirements.

B. All interconnections between this system and the monitoring system shall be arranged so that the entire system can be UL-Certificated.

C. System shall be a complete, supervised, non-coded, addressable multiplex fire alarm system conforming to NFPA 72.

D. The system shall have Style 4 circuits for each floor. The system shall operate in the alarm mode upon actuation of any alarm initiating device. The system shall remain in the alarm mode until all initiating device(s) are reset and the fire alarm control panel is manually reset and restored to normal.

E. The system shall be capable of the following configurations. Both configurations are permitted on the same network.
   1. The system shall support up to 252 addressable devices, which may be divided in any ratio on one, two, three, or four separate, isolated Class B circuits.
   2. The system shall support two loops of 252 addressable devices, each of which may be divided in any ratio on one, two, three, or four separate, isolated Class B circuits.

F. The system shall have a built-in digital alarm communication transmitter.

G. The system shall provide an off-normal warning prior to reset for all active devices.

H. The system shall be capable of remote monitoring via a proprietary software system that provides a graphical representation of the fire alarm control panel at a remote PC when connected via Ethernet to the system. The display will show the exact state of the panel, including blinking LEDs, and with menu buttons for control.

I. The system shall be capable of being configured either at the control panel or via a PC Tool.

J. In networked systems, each control panel shall be a global annunciator, capable of viewing all other control panels on the network.

K. The system shall provide the following functions and operating features:
   1. The FACP and auxiliary power panels shall provide power, annunciation, supervision and control for the system.
   2. Provide Class B initiating device circuits.
   3. Provide Style 7 signaling line circuits for the network.
   4. Provide two Class B notification appliance circuits. Arrange circuits to allow individual, selective, and visual notification by zone. Notification appliance circuits shall be zoned to correspond with the building fire barriers and other building features.
   5. Strobes shall be synchronized throughout the entire building.
   6. Provide electrical supervision of the primary power (AC) supply, presence of the battery, battery voltage, and placement of system modules within the control panel.

L. The system shall provide a field test function where one person can test the complete system or a specific area while maintaining full operational function of other areas not being tested. Alarms, supervisory signals, trouble signals shall be logged on the system printer and in system history during the walk-test.

M. Alarm functions shall override trouble or supervisory functions. Supervisory functions shall override trouble functions.

N. Fire alarm signal initiation shall be by one or more of the following devices:
   1. Manual pull station
   2. Heat detector
   3. Addressable area smoke detectors
   4. Addressable Multi-criteria smoke detectors with built-in Carbon Monoxide detector

O. Activation of any system fire, security, supervisory, trouble, or status initiating device shall cause the following actions and indications at all network Person Machine Interfaces using basic graphics and multiple detail screens.
   1. Fire Alarm Condition:
      a. Sound an audible alarm and display a custom screen/message defining the building in alarm and the specific alarm point initiating the alarm in a graphic display.
      b. Log into the system history archives all activity pertaining to the alarm condition.
      c. Print alarm condition on system printer.
      d. Sound the ANSI 117-1 signal with synchronized audible notification appliances and synchronized strobes throughout the facility.
      e. Audible signals shall be silenced from the fire alarm control panel by an alarm silence switch. Visual signals shall be programmable to flash until system reset or alarm silencing, as required.
      f. A signal dedicated to sprinkler system water flow alarm shall not be silenced while the sprinkler system is flowing at a rate of flow equal to a single head.
      g. Activation of any smoke detector in a single elevator lobby or an elevator equipment room shall, in addition to the actions described, cause the recall of that bank of elevators to the 1st floor and the lockout of controls. In the event of recall initiation by a detector in the first floor lobby, the recall shall be to the alternate floor as determined by the AHJ.
      h. Where indicated on drawings heat detectors in elevator shaft and machine rooms shall activate an elevator power shunt trip breaker. The heat detectors shall be rated at a temperature below the ratings of the sprinkler heads in respective locations to insure that the power shall be shut off before activation of sprinkler system.
      i. System operated duct detectors as per local requirements shall accomplish HVAC shut down.
      j. Door closure devices shall operate by floor or by local requirements.
      k. Fire alarm signal to be sent to central station service.
   2. Carbon Monoxide Condition:
      a. Sound a distinctive localized alarm from the actual detection device and display a location of event at the addressable fire alarm panel and at the remote annunciators.
      b. Notify personnel in an approved continuously attended supervisory station. Personnel shall then contact the responsible party in accordance with the notification plan per NFPA 720.

3. Supervisory Condition:
   a. Display the origin of the supervisory condition report at the local fire alarm control panel graphic LCD display.
   b. Activate supervisory audible and dedicated visual signal.
   c. Audible signals shall be silenced from the control panel by the supervisory acknowledge switch.
   d. Record within system history the initiating device and time of occurrence of the event.
   e. Print supervisory condition to system printer.
   f. Supervisory signal to be sent to central station service
4. Trouble Condition
   a. Display at the local fire alarm control panel graphic LCD display, the origin of the trouble condition report.
   b. Activate trouble audible and visual signals at the control panel and as indicated on the drawings.
   c. Audible signals shall be silenced from the fire alarm control panel by a trouble acknowledge switch.
   d. Trouble conditions that have been restored to normal shall be automatically removed from the trouble display queue and not require operator intervention. This feature shall be software selectable and shall not preclude the logging of trouble events to the historical file.
   e. Trouble reports for primary system power failure to the master control shall be automatically delayed for a period of time equal to 25% of the system standby battery capacity to eliminate spurious reports as a result of power fluctuations.
   f. Record within system history, the occurrence of the event, the time of occurrence and the device initiating the event.
   g. Print trouble condition to system printer.
   h. Trouble signal to be sent to central station service.

P. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1.6 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories. Complete manufacturer's catalog data including supervisory power usage, alarm power usage, physical dimensions, and finish and mounting requirements.

B. Power calculations. Battery capacity calculations. Battery size shall be a minimum of 125% of the calculated requirement. Provide the following supporting information:
   1. Supervisory power requirements for all equipment.
   2. Alarm power requirements for all equipment.
   3. Power supply rating justification showing power requirements for each of the system power supplies. Power supplies shall be sized to furnish the total connected load in a worst-case condition plus 25% spare capacity.
   4. Voltage drop calculations for wiring runs demonstrating worst-case condition.
   5. NAC circuit design shall incorporate a 15% spare capacity for future expansion.

C. Submit manufacturer's requirements for testing Signaling Line Circuits and device addresses prior to connecting to control panel. At a minimum the following tests shall be required; device address, the usage (Alarm, Supervisory etc), environmental compensation, temperature ratings for thermal detectors and smoke detector sensitivities. This requirement shall need approval before any wiring is connected to the control panel.

D. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
   1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
   2. Wiring Diagrams: For power, signal, and control wiring.

3. Complete drawings covering the following shall be submitted by the contractor for the proposed system:
   a. Floor plans in a CAD compatible format at a scale of 1/8”=1’-0” showing all equipment and raceways, marked for size, conductor count with type and size, showing the percentage of allowable National Electric Code fill used.
   b. Provide a fire alarm system function matrix as referenced by NFPA 72, Figure A-7-5.2.2 (9). Matrix shall illustrate alarm input/out events in association with initiation devices. Matrix summary shall include system supervisory and trouble output functions. Include any and all departures, exceptions, variances or substitutions from these specifications and/or drawings at time of bid.
4. Installation drawings shop drawings, and as-built drawings shall be prepared by an individual experienced with the work specified herein.
5. Incomplete submittals shall be returned without review, unless with prior approval of the Engineer.

E. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:
   1. Light fixtures.
   2. HVAC registers
   3. Fire protection equipment interfaces
   4. Special suppression system interfaces

F. Qualification Data: For qualified Installer, Applicator, manufacturer, fabricator, professional engineer, testing agency, and factory-authorized service representative.

G. Source quality-control reports.

H. Field quality-control reports.

I. Operation and Maintenance Data: For all fire alarm equipment, to include in operation and maintenance manuals.

J. Software and Firmware Operational Documentation:
   1. Software operating and upgrade manuals.
   2. Program Software Backup: On magnetic media or compact disk, complete with data files.
   3. Device address list.
   4. Printout of software application and graphic screens.

K. Warranty: Sample of special warranty.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: The publications listed below form a part of this publication to the extent referenced. The publications are referenced in the text by the basic designation only. The latest version of each listed publication shall be used as a guide unless the authority having jurisdiction has adopted an earlier version.
   1. FM Global (Factory Mutual (FM)):FM Approval Guide
   2. National Fire Protection Association (NFPA)
      a. NFPA 70 National Electrical Code
      b. NFPA 72 National Fire Alarm Code
      c. NFPA 90A Standard For The Installation of Air Conditioning and Ventilating Systems
      d. NFPA 101 Life Safety Code
      e. NFPA 720 Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
   3. Underwriters’ Laboratories, Inc. (UL) equipment standards, Latest Edition
      a. UL Fire Protection Equipment Directory
      b. UL Electrical Construction Materials Directory
      c. UL 38 – Manually Actuated Signaling Boxes for Use With Fire Protection Signaling Systems

   d. UL 228 – Door Holding Devices
   e. UL 268 - Smoke Detectors for Fire Protective Signaling Systems
   f. UL 268A - Smoke Detectors for Duct Application
   g. UL 464 - Audible Signal Appliances
   h. UL 497A – Secondary Protectors for Communications Circuits
   i. UL 521 - Heat Detectors for Fire Protective Signaling Systems
   j. UL 864 - Control Units for Fire Protective Signaling Systems
   k. UL 1283 – Electromagnetic Interference Filters
   l. UL 1449 - Transient Voltage Surge Suppressors
   m. UL 1971 - Signaling Devices for the Hearing Impaired
   n. UL 2075 – Gas and Vapor Detectors and Sensors
4. International Code Council
   a. International Building Code
   b. International Fire Code.
5. State and Local Building Codes as adopted and/or amended by The Authority Having Jurisdiction, ADA, and/or State and local equivalency standards as adopted by The Authority Having Jurisdiction.
6. California State Fire Marshal
7. NY-MEA
8. ISO 9002

B. Supplier Qualifications
1. The manufacturer of the supplied products must utilize multi-channel product distribution on a national basis to be considered for this bid. The manufacturer must have factory branches as well as independent distributors to allow the end user with the ability to utilize factory trained and authorized competitive service providers after system installation and commissioning.
2. Provide the services of a factory trained and certified representative or technician, experienced in the installation and operation of the type of system provided. The representative shall be licensed in the State if required by law.
3. The technician shall supervise installation, software documentation, adjustment, preliminary testing, final testing and certification of the system. The technician shall provide the required instruction to the owner's personnel in the system operation and maintenance.
4. The suppliers shall furnish evidence they have an experienced service organization, which carries a stock of spare and repair parts for the system being furnished.
5. The equipment supplier shall be authorized and trained by the manufacturer to calculate, design, install, test, and maintain the air sampling system and shall be able to produce a certificate stating such upon request.

C. Installer Qualifications:
1. Before commencing work, submit data showing that the manufacturer has successfully installed fire alarm systems of the same scope, type and design as specified.
2. The contractor shall submit copies of all required Licenses and Bonds as required in the State having jurisdiction.
3. The contractor shall employ on staff a minimum of one NICET level II technician or a professional engineer, registered in the State of the installation.
4. The contractor shall be qualified by UL for certifying fire alarm systems.
5. Contractors unable to comply with the provisions of Qualification of Installers shall present proof of engaging the services of a subcontractor qualified to furnish the required services.

D. Source Limitations for fire alarm equipment: Obtain fire alarm equipment from single source.

E. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.
3. Combustion Characteristics: ASTM E 136.

F. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

G. Pre-installation Conference: Conduct conference at Project site.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site in original, unopened packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, and shelf life if applicable.

B. Store materials inside, under cover, above ground, and kept dry and protected from physical damage until ready for use. Remove from site and discard wet or damaged materials.

1.9 PROJECT CONDITIONS

A. Installed products or materials shall be free from any damage including, but not limited to, physical insult, dirt and debris, moisture, and mold damage.

B. Environmental Limitations: Do not deliver or install products or materials until spaces are enclosed and weather-tight, wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire alarm equipment that fail(s) in materials or workmanship within specified warranty period.
1. Warranty Period: 1 year from date of Substantial Completion.

1.11 SERVICE AGREEMENT

A. Technical Support: Beginning with Substantial Completion, provide software support for 1 year.

B. Upgrade Service: Update software to latest version at Project completion. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system. Upgrade shall include new or revised licenses for use of software.
1. Provide 30 days' notice to Owner to allow scheduling and access to system and to allow Owner to upgrade computer equipment if necessary.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Siemens Industry, Building Technologies Division, (or approved equal).

2.2 CONTROL PANEL

A. The fire alarm control panel shall be microprocessor based using multiple microprocessors throughout the system providing rapid processing of smoke detector and other initiation device information to control system output functions.

B. There shall be a watchdog circuit, which shall verify the system processors and the software program. Problems with either the processors or the system program the panel shall activate a trouble signal, and reset the panel.

C. The system modules shall communicate with an RS 485 network communications protocol. All module wiring shall be to terminal blocks, which will plug into the system card cage

D. The system shall be capable of the following configurations. Both configurations are permitted on the same network.
   1. The system shall support two loops of 252 addressable devices, each of which may be divided in any ratio on one, two, three, or four separate, isolated Class B circuits.

E. The system shall be capable of supporting unshielded wiring applications.

F. The system shall be compliant with the requirements of NFPA 720 as a Carbon Monoxide Detection Control Unit and shall meet the UL 2075 listing requirements. All inputs from CO sensors shall be indicated visually and audibly at the control panel. CO sensor inputs shall be distinct and descriptively annunciated from other signals.

G. System Components:
   1. The System Periphery board shall be capable of 252 intelligent devices distributed between one, two, three, or four Class B SLC circuits. Any trouble on one circuit shall not affect the other circuit. This module controls the signaling from the initiation devices reporting alarms and troubles to the control panel. This module shall also provide the signaling to the field devices for the controlling the output of specific initiation devices. The on board microprocessor provides the periphery board with the ability to function even if the main microprocessor fails. LED's on the board shall provide annunciation for the following; Power, Gnd. Fault, Alarm, Trouble. This board is integral to the system.
   2. The system periphery board shall be capable of supporting two system drivers of 252 intelligent devices distributed between one, two, three, or four Class B SLC circuits, for a total panel capacity of 504 addressable devices. Any trouble on one circuit shall not affect the other circuit. This module controls the signaling from the initiation devices reporting alarms and troubles to the control panel. This module shall also provide the signaling to the field devices for the controlling the output of specific initiation devices. The on board microprocessor provides the periphery board with the ability to function even if the main microprocessor fails. LED's on the board shall provide annunciation for the following: Power, Gnd. Fault, Alarm, Trouble. This board is integral to the system.
   3. The Signal Line Circuits (SLC) shall be tested for opens, shorts and communications with all addressable devices installed before connection to the control panel. Systems without this capability shall have a test panel installed for initial testing to eliminate any possible damage short term or long term to the control panel. After initial testing replace the test panel and proceed with complete testing.
   4. The standard Operator Interface shall have the ability to view events, acknowledge, silence, and reset the system and any networked control panels, when configured as a global PMI.
   5. The LED Operator Interface shall have the ability to view events, acknowledge, silence, and reset the system and any networked control panels, when configured as a global PMI. Additionally, the operator interface provides twelve multicolored configurable LEDs for annunciating system status.
   6. The Network Card shall provide internode communication between enclosures. Communication shall support Class B Style 4 or Class A Style 7 wiring (in a ring configuration). This card shall plug into the system operator interface.
   7. The System Periphery Board shall contain 2 Class B NAC circuits rated at 3 amps each with power-limited outputs. The zones shall be isolated and independently supervised. There shall be at least 6 unique codes/signals for each circuit based on system logic. These signals shall be Temporal Code 3 (Evacuation), Steady (Such as "Recall"), Temporal Code 4 (for CO alarms), March Time 120ppm, March Time 60ppm, and March Time 30ppm. The card shall have the following LED's to provide trouble shooting and annunciation; Power, Gnd. Fault, Zone Activation or Trouble. This functionality shall be integral to the system.
   8. The control panel shall be equipped with four Form C relays for alarm, trouble, supervisory, and programmable output. The system shall provide the mounting of all system cards, field wiring, and panel's inter-card wiring. All power limited field wiring shall be separated from all non-power limited internal wiring.

H. System response time from alarm to output shall be an average of three (3) seconds.

I. All system cards and modules shall have Flash memory for downloading the latest module firmware.

J. Passwords:
   1. Technician Level Password - There shall be a 5 character password that a user must enter into the control panel in order to perform such maintenance- and control-related functions at the panel as:
      a. Arming and disarming devices.
      b. Activating, deactivating or modifying detector ASD and sensitivity settings.
      c. Activating and deactivating the History Log function, and deleting obsolete entries.
      d. Changing the system time and date.
   2. Maintenance Level Password - There shall be a 5 character password that a user must enter into the control panel in order to access the panel's reporting functions and walktest functions.
   3. Acknowledge Silenceable Reset Access - There shall be a key required to open a locked cabinet that a system user must use in order to acknowledge events, turn silenceable audibles and visuals on and off, and perform panel resets.

K. Networking:
   1. Digital communication capabilities supporting Style 4 (Class B) or Style 7 (Class A) communications using either DC digital or fiber optics technologies or combinations of both as required for the control panel to communicate with up to 16 FACPs.
   2. Digital communication capabilities supporting Style 4 (Class B) or Style 7 (Class A) communications using either DC digital or fiber optics technologies or combinations of both as required for the control panel to communicate with up to 4 network nodes.
   3. Capability shall exist within the system to extend the network at any node. The system shall support a maximum of two network extension circuits in series on any system branch, extending the inherent distance limitations for network communications.
   4. Communication protocol shall be of the RS485 type.

L. Network Fiber Modules
   1. Multimode and single mode.
   2. The network fiber interface modules shall be used to transmit RS-485 communications between intelligent addressable fire alarm control panels. Each module shall have power, transmit and receive status LEDs. The module can act as a repeater or end-point unit, in a daisy chain or star configuration.
   3. The connection between the multimode fiber interface modules shall use 2 high quality duplex 50/125 or 62.5/125 fiber optic cables and ST style fiber connectors. Each segment of the fiber network can be up to 1.9 miles. The fiber module shall have a minimum operating power output budget of -13dB for 62.5/125 cable and -9 dB for 50/125 cable.
   4. The connection between the single mode fiber interface modules shall use 2 high quality duplex 9/125 fiber optic cables and ST style fiber connectors. Each segment of the fiber network can be up to 20 miles. The fiber module shall have a minimum operating power output budget of -16dB for 9/125 cable.

M. Degrade Mode Alarm Activation:
   1. Each panel shall operate as a stand-alone fire alarm control panel with complete functionality in the event of loss of communications with other panels on a network.

N. Software Modifications: The system structure and software shall place no limit on the type or extent of software modifications on-site. Modification of software shall not require power-down of the system or loss of system fire protection while modifications are being made. Systems that require the use of external programmers or change of EPROMs are not acceptable.

O. History: The system shall store 20000 events in history. Trouble warnings will occur when the History buffer is full.

P. Reports:
   1. The system shall have the ability to provide configuration, status, queue and history reports.
   2. Configuration reports shall provide the following information:
      a. Custom Messages

b. Database Information
c. Entity Type
d. Device Usage
e. Zone usage
f. Device Category
g. Firmware revision

3. Status reports shall provide the following information:
   a. Disarmed cards and devices
   b. ASD settings
   c. Sensitivity in %/foot
   d. Alarm threshold in %/foot
   e. Temperature in degrees C
   f. Walktest
4. Queue reports shall provide the following information:
   a. Alarm events with custom message and event time
   b. Gas alarm events with custom message and event time
   c. Supervisory events with custom message and event time
   d. Trouble events with custom message and event time
   e. Status events with custom message and event time
   f. Information events
5. History reports shall provide Address, History Type, Description, Time & Date and Custom Message. The following event types shall be reported:
   a. Alarm events
   b. Gas alarm events
   c. Supervisory events
   d. Status changes
   e. Alarm verification
   f. Output activation from logic
   g. System Reset
   h. Event Acknowledgements
   i. Block Acknowledgements
   j. Audible Silence System Flag Changes
   k. Sensitivity Changes
   l. Arm / Disarm Commands
   m. Arm / Disarm By Logic
   n. Manual Output Overrides
   o. Output Overrides By Logic
   p. Time Changes
   q. Menu Logins
   r. ASD Changes
   s. Walktest
   t. Device Input to Logic Activations/Deactivations

2.3 POWER SUPPLY

A. The system Power Supply shall be filtered and regulated. The power supply provides power for all system operation, including signaling line circuits, notification appliance circuits, auxiliary power, battery charger, and all optional modules The power supply shall be rated for 120/240 VAC 50/60 Hz.

B. The battery charger shall be able to charge the system batteries up to 100 AH batteries. Battery charging shall be microprocessor controlled and programmed with a special software package to select charging rates and battery sizes. An optional Thermistor for monitoring battery temperature to control charging rate shall be available.

C. Transfer from AC to battery power shall be instantaneous when AC voltage drops to a point where it is not sufficient for normal operation.

2.4 BATTERIES

A. Batteries shall be of sufficient capacity to provide power for the entire system upon loss of normal AC power for a period of 24 hours with five (5) minutes of alarm signal at the end this 24-hour period, as required by NFPA 72, Local Systems.

B. CARBON MONOXIDE DETECTION SYSTEM: Batteries shall be dedicated to the Carbon Monoxide Detection System as required by NFPA 720, Secondary Power Supply.

2.5 SYSTEM ENCLOSURE

A. Provide the enclosure needed to hold all the cards and modules as specified with at least spare capacity for two cards. The outer doors shall be capable of being a left hand open. The inner door shall have a left hand opening.

B. Outer Door shall have integral cylinder lock and latch.

2.6 INTELLIGENT INITIATING DEVICES

A. General
1. All initiation devices shall be insensitive to initiating loop polarity. Specifically, the devices shall be insensitive to plus/minus voltage connections.

B. Smoke Detectors – Standard Addressable
1. The detector shall be guaranteed in writing not to false alarm when configured by the factory trained certified technician. The detector must provide up to 11 different environmental algorithms that allow the detector to provide superior false alarm immunity without the need for additional alarm verification delays.
2. The detector shall have a multicolor LED to streamline system maintenance/inspection by plainly indicating detector status as follows: green for normal operation, amber for maintenance required, red for alarm.
3. The multi-criteria smoke detector shall be an intelligent digital photoelectric detector with a programmable heat detector. Detectors shall be listed for use as open area protective coverage, in duct installation and sampling assembly installation and shall be insensitive to air velocity changes. The detector communications shall allow the detector to provide alarm input to the system and alarm output from the system within four (4) seconds. So as to minimize the effort required by the installing and maintenance technician to appropriately configure the detector to ensure optimal system design, the detectors shall be programmable as application specific. Application settings shall be selected in software for a minimum of eleven environmental fire profiles unique to the devices installed location.
4. The detector shall be designed to eliminate the possibility of false indications caused by dust, moisture, RFI/EMI, chemical fumes and air movement while factoring in conditions of ambient temperature rise, obscuration rate changes and hot/cold smoke phenomenon into the alarm decision to give the earliest possible real alarm condition report.
5. The intelligent smoke detector shall be capable of providing three distinct outputs from the control panel. The outputs shall be from an input of smoke obscuration, a thermal condition or a combination of obscuration and thermal conditions. The detector shall be designed to eliminate calibration errors associated with field cleaning of the chamber.
6. The detector shall support the use of a relay, or LED remote indicator without requiring an additional software address. Low profile, white case shall not exceed 2.5 inches of extension below the finish ceiling.
7. For the detector where required, there shall be available a locking kit and detector guard to prevent unauthorized detector removal.
8. Where required, there shall be available a programmable remote lamp configurable to remotely duplicate the on-board LED status of another system device with the same software address.

C. Heat Detectors – Addressable

1. Thermal Detectors shall be rated at 135 degrees fixed temperature and 15 degrees per minute rate of rise. Detectors shall be constructed to compensate for the thermal lag inherent in conventional type detectors due to the thermal mass, and alarm at the set point of 135 degrees Fahrenheit. The choice of alarm reporting as a fixed temperature detector or a combination of fixed and rate of rise shall be made in system software and be changeable at any time without the necessity of hardware replacement.
2. The detectors furnished shall have a listed spacing for coverage up to 2,500 square feet and shall be installed according to the requirements of NFPA 72 for open area coverage.
3. Heat detector shall have the following temperature settings:
   a. Fixed temperature at 135°F, 145°F, 155°F, 165°F, 174°F
   b. Rate of Rise at 15°F/ min (8.3°C) at 135°F (57°C)
   c. Rate of Rise at 15°F/ min (8.3°C) at 174°F (79°C)
   d. Low temperature warning at 40°F (4.4°C)

D. Duct Smoke Detectors – Addressable
1. For duct detector applications, the smoke detector shall be an intelligent digital photoelectric detector. Detectors shall be listed for use as open area protective coverage, in duct installation and sampling assembly installation and shall be insensitive to air velocity changes.
2. The detector communications shall allow the detector to provide alarm input to the system and alarm output from the system within four (4) seconds. The detector shall be mounted in a duct detector housing listed for that purpose. The duct detector shall support the use of a remote test switch, relay or LED remote indicator. The duct detector shall be supplied with the appropriate sampling tubes to fit the installation.
3. Where duct detectors are exposed to the weather a weatherproof enclosure shall be available. The duct housing cover shall include a test port for functional testing of the detector without cover removal. The duct housing shall include a cover removal switch capable of indicating cover removal status to the fire alarm control panel.
4. Where required there shall be available a duct housing with an on-board relay. Also where required, there shall be a standalone housing available with its own power supply and test/reset switch that does not require connection to a fire alarm control panel.
5. Duct smoke detector housing shall allow use in duct systems with air velocity ranging from 100 to 4,000 feet per minute, within temperature ranges of 32°F to 120°F per minute, and with relative humidity ranging from 0 to 95%.
6. Duct Housings and Accessories:
   a. Global Air Duct Housing for Conventional and Addressable Detectors
   b. Global Air Duct Housing for Addressable P2 Detectors with Relay Application
   c. Global Air Duct Housing for Conventional Detectors with Relay Application
   d. Global Air Duct Housing for Conventional Detectors with Relay Application and Built-in Power Source
   e. Weather-Proof housing to accommodate all versions of Global Air Duct Housings
   f. Remote Test Lamp for Conventional Detectors

E. Detector Bases – Addressable
1. Detector bases shall be low profile twist lock type with screw clamp terminals and self-wiping contacts. Bases shall be installed on an industry standard, 4" square or octagonal electrical outlet box.
2. Detectors shall be listed per UL 268A as “direct in duct” without need for a duct housing.
3. Multi-Criteria Fire Detector shall be listed as providing CO detection in duct application.

F. Manual Pull Stations – Addressable
1. Provide addressable manual stations where shown on the drawings, to be flush or surface mounted as required. Manual stations shall contain the intelligence for reporting address, identity, alarm and trouble to the fire alarm control panel. The manual station communications shall allow the station to provide alarm input to the system and alarm output from the system within less than four (4) seconds.
2. The manual station shall be equipped with terminal strip and pressure style screw terminals for the connection of field wiring. Surface mounted stations where indicated on the drawings shall be mounted using a manufacturer's prescribed matching red enamel outlet box.

3. Provide double action pull station.
4. Where required, there shall also be available pull stations with break glass, capable of explosion proof installation, capable of weatherproof installation, reset key operation, and metal housings.

G. Addressable Interface Devices
1. Addressable Interface Devices shall be provided to monitor contacts for such items as water-flow, tamper, and PIV switches connected to the fire alarm system. These interface devices shall be able to monitor a single or dual contacts. An address will be provided for each contact. Where remote supervised relay is required the interface shall be equipped with a SPDT relay rated for 4 amps resistive and 3.5 amps inductive.
2. Where needed a Conventional Zone Module shall connect to the Signal Line Circuit, which will allow the use of conventional initiation devices. This module shall have the ability to support up to 15 convention smoke detectors and an unlimited number of contact devices. This module shall also be capable of monitoring Linear Beam detectors and conventional Flame detectors. Where required, there shall be an intrinsically safe detection solution for NEMA defined intrinsically safe installations compatible with the conventional zone module.
3. Single Device Damper Monitoring and Control: A single switch input shall be able to monitor all 3 states of a damper – open, closed, and in transit. A single device shall be able to fully control a damper (through the relay connected to the motor control) while also using its switch input for monitoring all 3 states of the damper.
4. Addressable input/output module shall be insensitive to polarity and shall have capability for up to 4 separate inputs (Class B) or 2 separate Class A inputs and 4 separate outputs (Class B).

2.7 DEVICE PROGRAMMING UNIT

A. Device Programming Unit: The programming tool shall program the intelligent devices with addresses. The unit shall test the device to respond to its address. DIP switches and rotary switches shall not be acceptable. The programmer shall have a carrying case.

2.8 NOTIFICATION APPLIANCES

A. AC Horn
1. Models shall be UL 464 Listed for Fire Protective Service, and shall include a die-cast metal housing to protect the horn mechanism
2. Sound output shall be 95 dBA minimum at 10 feet
3. Mounting options shall include surface mounting for indoor or outdoor applications and semi-flush for indoor applications
4. All models shall have screw terminal inputs for in / out field wiring
5. The finish shall be textured enamel
6. All notification appliances shall be listed for “Special Applications”

B. Mini Horn Appliances
1. Notification appliance shall be electronic, and shall have field-selectable settings for Temporal (Code 3) or continuous horn and support coded-systems operation
2. The anechoic sound pressure measurement on Temporal (Code 3) and Continuous Horn settings shall each be 87 dBA minimum at 24VDC
3. All models shall have provision for standard reverse polarity-type supervision and IN / OUT wiring using terminals that accept #12 to #18 AWG wiring
4. The appliances shall be mounted indoors, and mount on standard, single-gang electrical back boxes requiring no additional trim plates or adapters
5. All notification appliances shall be listed for “Special Applications”

2.9 DIGITAL COMMUNICATOR

A. The Multi-Point Digital Alarm Communicator shall be UL864 listed to provide point identification of alarm, supervisory, security and trouble events to a Central or Remove Receiving Station. The DACT shall support the following:
1. Ademco Contact ID or SIA protocol

2. Ademco Contact ID selection shall provide the ability to transmit events for up to 999 individual zones
3. SIA selection shall provide the ability to transmit events for up to 10000 individual points
4. Programming of accounts and phone numbers
5. Dual phone line interface
6. Line fault monitoring.
7. Automatic 24-hour test
8. The DACT supports configurable alarm, alarm restoral, trouble, trouble restoral, supervisory, supervisory restoral, and reset events.
9. The DACT supports Ademco Contact ID alarm event codes for general alarm, smoke detector alarm, waterflow alarm, duct alarm, and manual alarm events.
10. The DACT shall communicate to a Central or Remote Receiving Station upon a carbon monoxide detection event per NFPA 720.
11. Optionally, the DACT can be programmed to report events by event queue only.

2.10 REMOTE ANNUNCIATOR

A. The fire-system displays are remote LCD units that show existing status of the FACP.

B. The display supports the following LED's for system-status conditions:
1. Power
2. Alarm
3. Trouble
4. Supervisory
5. Ground-Fault

C. A 3.5 inch by 1.5 inch LED screen will give details of the event in alphanumeric form. The display screen shall scroll to reveal additional events.

D. Graphic Display:
1. UV fade-resistant inks with unlimited color selection.
2. Heavy-duty aluminum anodized frame.
3. Security mounting hardware.
4. Polycarbonate clear protective window.
5. Approximately 24" x 18".

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Perform work in accordance with the requirements of NFPA 70, NFPA 72 and NECA 1-2006, Standard of Good Workmanship in Electrical Contracting.

B. Fasten equipment to structural members of building or metal supports attached to structure, or to concrete surfaces.

C. In the event that limited energy cable installation is allowed, all cable runs shall be run at right angles to building walls, supported from structure at intervals not exceeding 3 feet and where installed in environmental air plenums, be rated for such use and tied/supported by components listed for environmental air plenums installation.

D. Provide primary power for each panel from normal/ emergency panels as indicated on the Electrical Power Plans. Power shall be 120 VAC service, transformed through a two-winding, isolation type transformer and rectified to low voltage DC for operation of all circuits and devices.

3.3 INSTALLATION - CABLING

A. Wherever possible, cables shall be concealed within wall or ceiling cavities.

B.
1. Within conduit as specified in Section 26 05 33.13:
   a. Above any inaccessible ceiling system.
   b. At any exposed area, unless noted otherwise.
2. Within J-hooks or cable trays as specified in Section 26 05 29:
   a. Above accessible ceiling systems.
   b. In any mechanical or storage spaces with no ceiling system.
3. Within surface mounted raceway as specified in Section 26 05 33.23:
   a. For any surface mounted wall devices being installed on existing block walls where no usable pathway exists.
4. Within enclosures:
   a. Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

C. Regardless of method utilized, install firestopping to preserve fire resistance ratings of partitions and other elements, using materials and methods specified in Section 07 84 00.

D. Notify Architect and obtain approval prior to proceeding with installations that will not conform to methods outlined above, or that could result in aesthetically objectionable conditions.

3.4 BOXES, ENCLOSURES AND WIRING DEVICES

A. Boxes shall be installed plumb and firmly in position.

B. Extension rings with blank covers shall be installed on junction boxes where required.

C. Junction boxes served by concealed conduit shall be flush mounted.

D. Upon initial installation, all wiring outlets, junction, pull and outlet boxes shall have dust covers installed. Dust covers shall not be removed until wiring installation when permanent dust covers or devices are installed.

E. "Fire alarm system" decal or silk-screened label shall be applied to all junction box covers.

3.5 DEVICE PROTECTIVE GUARDS

A. Protective guards shall be installed on detectors, A/V units, and manual pull stations in any space subject to abuse.
1. These spaces include but are not limited to:
   a. Gymnasiums
   b. Fitness/ Weight Rooms
   c. Cafeteria
   d. Locker Rooms

B. Detector Guards:
1. 9 gauge steel wire with polyester coating.
2. In Cafeterias and Fitness Rooms, the guard shall be spray painted to match the ceiling finish. Coordinate with Architect for RAL#.
3. STI-9601, or approved equal.

C. A/V Guards:

1. 9 gauge steel wire with polyester coating.
2. Color shall be red.
3. STI-97 Series, or approved equal.

D. Pull Station Guards:
1. Clear polycarbonate hinged cover.
2. Red Label: "In case of fire, lift cover."
3. Provide spacer in surface mount applications.
4. STI-1200, or approved equal.

3.6 CONDUCTORS

A. Each conductor shall be identified as shown on the drawings at each with wire markers at terminal points. Attach permanent wire markers within 2 inches of the wire termination. Marker legends shall be visible.

B. All wiring shall be supplied and installed in compliance with the requirements of the National Electric Code, NFPA 70, Article 760, and that of the manufacturer.

C. Wiring for strobe and audible circuits shall be a minimum 14 AWG, signal line circuits minimum 18 AWG twisted.

D. All splices shall be made using solderless connectors. All connectors shall be installed in conformance with the manufacturer recommendations.

E. Crimp-on type spade lugs shall be used for terminations of stranded conductors to binder screw or stud type terminals. Spade lugs shall have upset legs and insulation sleeves sized for the conductors.

F. The installation contractor shall submit for approval prior to installation of wire, a proposed color code for system conductors to allow rapid identification of circuit types.

G. Wiring within sub panels shall be arranged and routed to allow accessibility to equipment for adjustment and maintenance.

3.7 DEVICES

A. Relays and other devices to be mounted in auxiliary panels are to be securely fastened to avoid false indications and failures due to shock or vibration.

B. Wiring within panels shall be arranged and routed to allow accessibility to equipment for adjustment and maintenance.

C. All devices and appliances shall be mounted to or in an approved electrical box.

3.8 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

B. Permanently label or mark each conductor at both ends with permanent alphanumeric wire markers.

C. A consistent color code for fire alarm system conductors throughout the installation.

3.9 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

3.10 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

B. Testing General:
   1. All Alarm Initiating Devices shall be observed and logged for correct zone and sensitivity. These devices and their bases shall be tagged with adhesive tags located in an area not visible when installed, showing the initials of the installing technician and date.
   2. Wiring runs shall be tested for continuity, short circuits and grounds before system is energized. Resistance, current and voltage readings shall be made as work progresses.
   3. The acceptance inspector shall be notified before the start of the required tests. All items found at variance with the drawings or this specification during testing or inspection by the acceptance inspector shall be corrected.
   4. Test reports shall be delivered to the acceptance inspector as completed.
   5. All test equipment, instruments, tools and labor required to conduct the system tests shall be made available by the installing contractor. The following equipment shall be a minimum for conducting the tests:
      a. Ladders and scaffolds as required to access all installed equipment.
      b. Multi-meter for reading voltage, current and resistance.
      c. Two way radios, and flashlights.
      d. A manufacturer recommended device for measuring air flow through air duct smoke detector sampling assemblies.
      e. Decibel meter.
      f. In addition to the testing specified to be performed by the installing contractor, the installation shall be subject to test by the acceptance inspector.

3.11 ACCEPTANCE TESTING

A. A written acceptance test procedure (ATP) for testing the fire alarm system components and installation will be prepared by the engineer in accordance with NFPA 72 and this specification. The contractor shall be responsible for the performance of the ATP, demonstrating the function of the system and verifying the correct operation of all system components, circuits, and programming.

B. A program matrix shall be prepared by the installing contractor referencing each alarm input to every output function affected as a result of an alarm condition on that input.

C. The installing contractor prior to the ATP shall prepare a complete listing of all device labels for alphanumeric annunciator displays.

D. Loop Resistance Tests: Measure and record the resistance of each circuit with each pair of conductors in the circuit short-circuited at the farthest point from the circuit origin. The tests shall be witnessed by the owner and test results recorded for use at the final acceptance test.

E. Preliminary Testing: Conduct preliminary tests to ensure that all devices and circuits are functioning properly. After preliminary testing is complete, provide a letter certifying that the installation is complete and fully operable. The letter shall state that each initiating and indicating device was tested in place and functioned properly. The letter shall also state that all panel functions were tested and operated properly. The Contractor and an authorized representative from each supplier of equipment shall be in attendance at the preliminary testing to make necessary adjustments.

F. Final Acceptance Test: Notify the owner in writing when the system is ready for final acceptance testing. Submit request for test at least 14 calendar days prior to the test date. A final acceptance test will not be scheduled until megger test results, the loop resistance test results, and the submittals required in Part 1 are provided to the owner. Test the system in accordance with the procedures outlined in NFPA 72.
   1. Verify that the control unit is in the normal condition as detailed in the manufacturer's operating and maintenance manual.

2. Test each initiating and indicating device and circuit for proper operation and response. Disconnect the confirmation feature for smoke detectors during tests to minimize the amount of smoke or test gas needed to activate the detector.
3. Test the system for all specified functions in accordance with the contract drawings and specifications and the manufacturer's operating and maintenance manual.
4. Visually inspect all wiring.
5. Verify that all software control and data files have been entered or programmed into the FACP.
6. Verify that Shop Drawings reflecting as-built conditions are accurate.
7. Measure the current in circuits to assure that there is the calculated spare capacity for the circuits.
8. Measure voltage readings for circuits to assure that voltage drop is not excessive.
9. Measure the voltage drop at the most remote appliance on each notification appliance circuit.

G. The acceptance inspector shall use the system record drawings in combination with the documents specified in this specification during the testing procedure to verify operation as programmed. In conducting the ATP, the acceptance inspector shall request demonstration of any or all input and output functions. The items tested shall include but not be limited to the following:
1. System wiring shall be tested to demonstrate correct system response and correct subsequent system operation in the event of:
   a. Open, shorted and grounded signal line circuits.
   b. Open, shorted and grounded notification, releasing circuits.
   c. Primary power or battery disconnected.
2. System notification appliances shall be demonstrated as follows:
   a. All alarm notification appliances actuate as programmed
   b. Audibility and visibility at required levels.
3. System indications shall be demonstrated as follows:
   a. Correct message display for each alarm input at the control display.
   b. Correct annunciator light for each alarm input at each annunciator and graphic display as shown on the drawings.
   c. Correct history logging for all system activity.
4. System off-site reporting functions shall be demonstrated as follows:
   a. Correct zone transmitted for each alarm input
   b. Trouble signals received for disconnect
5. Secondary power capabilities shall be demonstrated as follows:
   a. System primary power shall be disconnected for a period of time as specified herein. At the end of that period, an alarm condition shall be created and the system shall perform as specified for a period as specified.
   b. System primary power shall be restored for forty-eight hours and system-charging current shall be normal trickle charge for a fully charged battery bank.
   c. System battery voltages and charging currents shall be checked at the fire alarm control panel.

3.12 DOCUMENTATION

A. System documentation shall be furnished to the owner and shall include but not be limited to the following:
1. System record drawings and wiring details including one set of reproducible drawings, and a CD ROM with copies of the record drawings in DXF format for use in a CAD drafting program.
2. System operation, installation and maintenance manuals.
3. System matrix showing interaction of all input signals with output commands.
4. Documentation of system voltage, current and resistance readings taken during the installation, testing and ATP phases of the system installation.
5. System program showing system functions, controls and labeling of equipment and devices.

3.13 PROTECTION

A. Remove and replace devices and panel components that are wet, moisture damaged, or mold damaged.

3.14 DEMONSTRATION

A. Instructor: Include in the project the services of an instructor, who shall have received specific training from the manufacturer for the training of other persons regarding the inspection, testing and maintenance of the system provided. The instructor shall train the employees designated by the owner, in the care, adjustment, maintenance, and operation of the fire alarm system. Provide sign-in sheet listing Owner's staff present at each training session.

B. Training sessions shall cover all aspects of system performance, including system architecture, signaling line circuit configurations, sensor and other initiating device types, locations, and addresses, fire alarm control panel function key operation, and other functions as designated by the owner.

C. Required Instruction Time: Provide 16 hours of instruction after final acceptance of the system. The instruction shall be given during regular working hours on such dates and times as are selected by the owner. The instruction may be divided into two or more periods at the discretion of the owner. One training session shall be videotaped by the contractor. Videotapes shall be delivered to the owner.

D. Provide a typewritten instruction card mounted behind a Lexan plastic or glass cover in a stainless steel or aluminum frame. Install the frame in a conspicuous location observable from the FACP. The card shall show those steps to be taken by an operator when a signal is received as well as the functional operation of the system under all conditions, normal, alarm, supervisory and trouble. The instructions shall be approved by the owner.

E. Comprehensive system troubleshooting training shall be provided for a single individual designated by the owner. This session shall be separate and distinct from the above described sessions.

F. All training sessions shall be conducted following final system certification and acceptance. Three additional training sessions shall be provided for all security personnel on all shifts six months after final system certification.

G. All training sessions shall be conducted by an authorized fire alarm system distributor representative, who has received specific training from the manufacturer for the training of other persons regarding the inspection, testing, and maintenance of the system provided.

3.15 CLOSEOUT

A. Closeout Demonstration: Demonstrate proper operation of all functions to Owner.
   1. Be prepared to conduct any of the required tests.
   2. Have at least one copy of operation and maintenance data, preliminary copy of project record drawings, input/output matrix, and operator instruction chart(s) available during demonstration.
   3. Have authorized technical representative of control unit manufacturer present during demonstration.
   4. Demonstration may be combined with inspection and testing required by authority having jurisdiction; notify authority having jurisdiction in time to schedule demonstration.
   5. Repeat demonstration until successful.

B. Occupancy of the project will not occur prior to Substantial Completion.

C. Substantial Completion of the project cannot be achieved until inspection and testing is successful and:
   1. Specified diagnostic period without malfunction has been completed.
   2. Approved operating and maintenance data has been delivered.
   3. Spare parts, extra materials, and tools have been delivered.
   4. All aspects of operation have been demonstrated to Owner.
   5. Final acceptance of the fire alarm system has been given by authorities having jurisdiction.

6. Occupancy permit has been granted.
7. Specified pre-closeout instruction is complete.

D. Perform post-occupancy instruction within 3 months after Substantial Completion.

3.16 MAINTENANCE

A. See Section 01 70 00 - Execution and Closeout Requirements, for additional requirements relating to maintenance service

B. Provide to Owner, at no extra cost, a written maintenance contract for entire manufacturer's warranty period, to include the work described below.

C. Provide to Owner, a proposal as an alternate to the base bid, for a maintenance contract for entire warranty period, to include the work described below; include the total cost of the contract, proposal to be valid at least until 30 days after date of Substantial Completion.

D. Perform routine inspection, testing, and preventative maintenance required by NFPA 72, including:
1. Maintenance of fire safety interface and supervisory devices connected to fire alarm system.
2. Repairs required, unless due to improper use, accidents, or negligence beyond the control of the maintenance contractor.
3. Record keeping required by NFPA 72 and authorities having jurisdiction.

E. Provide trouble call-back service upon notification by Owner:
1. Provide on-site response within 2 hours of notification.
2. Include allowance for call-back service during normal working hours at no extra cost to Owner.
3. Owner will pay for call-back service outside of normal working hours on an hourly basis, based on actual time spent at site and not including travel time; include hourly rate and definition of normal working hours in maintenance contract.

F. Provide a complete description of preventative maintenance, systematic examination, adjustment, cleaning, inspection, and testing, with a detailed schedule.

G. Maintain a log at each fire alarm control unit, listing the date and time of each inspection and call-back visit, the condition of the system, nature of the trouble, correction performed, and parts replaced. Submit duplicate of each log entry to Owner's representative upon completion of site visit.

H. Comply with Owner's requirements for access to facility and security.

END OF SECTION

SECTION 31 10 00
SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Removal or protection of designated trees, shrubs, and other plant life.

B. Selective removal and trimming.

C. Repair and restoration.

D. Removal of existing surface debris.

E. Removing designated paving, curbs.

F. Demolition and removal of above grade improvements.

G. Disconnecting, capping or sealing, and removal/abandoned utilities.

H. Excavating of subsoil and topsoil.

1.2 RELATED REQUIREMENTS

A. Section 31 23 23 - Fill: Material for filling holes, pits, and excavations generated as result of removal operations.

1.3 REFERENCE STANDARDS

A. 29 CFR 1910.266 - Logging Operations; Current Edition.

B. ANSI A300 Part 1 - American National Standard for Tree Care Operations - Tree, Shrub, and Other Woody Plant Management - Standard Practices (Pruning); 2017.

C. ANSI Z133 - American National Standard for Arboricultural Operations - Safety Requirements; 2017.

1.4 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.

C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in locations indicated.

1.5 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

B. Historical items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to the Owner, which may be encountered during demolition, remain the Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to the Owner.

C. The Contractor is responsible for cutting all marked trees to log length and stock piling the logs for the property owner on site at property owners designated location.

1.6 PROJECT CONDITIONS

A. Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction.

B. Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements indicated to remain in place.
   1. Protect improvements on adjoining properties and on Owner’s property.
   2. Restore damaged improvements to their original condition, as acceptable to property owners.

C. Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to remain at drip line.

D. Salvageable Improvements: Carefully remove items indicated to be salvaged, and store on Owner’s premises where indicated or directed.

E. If indicated, Buildings to be demolished or relocated will be vacated and their use discontinued before start of Work.

F. If indicated, Owner assumes no responsibility for actual condition of buildings to be demolished or relocated.

G. Owner will maintain conditions existing at time of inspection for bidding purpose as far as practical.

H. Storage or sale of removed items or materials on-site will not be permitted.

I. Explosives: Use of explosives will not be permitted.

1.7 SUBMITTALS

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

B. Site Plan:
   1. Indicate vegetation removal limits.
   2. Indicate areas for temporary construction and field offices.

C. Clearing Firm Qualification Statement: Documentation of specialized experience.

D. Schedule of demolition activities indicating the following:
   1. The Owner reserves the right to claim any material scheduled for demolition. No demolition materials are to be removed from job site without approval of the Construction Manager.
   2. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
   3. Dates for shutoff, capping, and continuation of utility services.

E. Inventory of items to be removed and salvaged.

F. Inventory of items to be removed by Owner.

G. Photographs and videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by demolition operations.

H. Record drawings at Project closeout according to Division 1 Section "Contract Closeout."
   1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.8 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed demolition Work similar to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before starting demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Clearing Firm Qualifications: Company specializing in performing work of type specified and with at least five years of documented experience.

1.9 SCHEDULING

A. Arrange demolition schedule so as not to interfere with Owner's on-site operations.

PART 3 EXECUTION

2.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify existing plant life designated to remain is tagged or identified.

C. Identify salvage area for placing removed materials.

D. Verify that utilities have been disconnected and capped.

E. Survey existing conditions and correlate with requirements indicated to determine extent of demolition required.

F. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

G. Survey the condition of the building to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during demolition or relocation.

H. Perform surveys as the Work progresses to detect hazards resulting from demolition activities.

2.2 INITIAL PREPARATION

A. Call Local Utility One Call Center @ 811in the State of New York, not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

2.3 PROTECTION

A. Locate, identify, and protect utilities indicated to remain, from damage.

B. Protect trees, plant growth, and features designated to remain, as final landscaping as specified in Section 01 50 00 - Temporary Facilities and Controls.

C. Protect bench marks, survey control points, and existing structures from damage or displacement.

2.4 UTILITY SERVICES

A. Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.

B. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to governing authorities.

C. Provide not less than 72 hours' notice to Owner if shutdown of service is required during changeover.

D. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving structures to be demolished.

E. Owner will arrange to shut off indicated utilities when requested by Contractor.

F. Utility Requirements: Refer applicable specification sections for shutting off, disconnecting, removing, and sealing or capping utility services. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

2.5 PREPARATION

A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.

B. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

C. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

D. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area.

E. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.

F. Protect existing site improvements, appurtenances, and landscaping to remain.

G. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of buildings to be demolished or related and adjacent buildings to remain.

H. Strengthen or add new supports when required.

2.6 POLLUTION CONTROLS

A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.

B. Do not create hazardous or objectionable conditions, such as ice, flooding, and pollution, when using water.

C. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

D. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level.

E. Clean adjacent buildings and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing before start of demolition.

2.7 CLEARING

A. General: Remove trees, shrubs, grass and other vegetation, improvements, or obstructions as required to permit installation of new construction. Remove similar items elsewhere on site or premises as specifically indicated. “Removal” includes digging out and off-site disposing of stumps, roots, and branches.

B. Cut minor roots and branches of trees indicated to remain in a clean and careful manner, where such roots and branches obstruct installation of new construction.

C. Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over ½" inch in diameter, and without weeds, roots, and other objectionable material.

D. Do not remove wet topsoil.

E. Strip topsoil to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material.
   1. Do not remove topsoil from site.

F. Remove heavy growths of grass from areas before stripping.

G. Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system.

H. Stockpile topsoil in storage piles. Construct storage piles on site to a depth not exceeding 8 feet and protect from erosion. Cover storage piles, if required, to prevent wind erosion.

I. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated.

J. Place fill material in horizontal layers not exceeding 6 inches loose depth, and thoroughly compact to a density equal to adjacent original ground.

K. Removal of Improvements: Remove existing above-grade and below-grade improvements as indicated and as necessary to facilitate new construction.

L. Clear areas required for access to site and execution of Work to minimum depth of 12 inches.

M. Clear undergrowth and deadwood, without disturbing subsoils.

N. Removed timber and stumps that are unwanted by the Owner or landowner shall be properly disposed of.

2.8 REMOVAL

A. Remove debris, rock, and extracted plant life from site.

B. Remove paving, walks and curbs as indicated on Drawings. Neatly saw cut edges at right angle to surface and at right angles to adjoining structures. Saw cut concrete pavement as indicated at locations shown on drawings nearest to existing joint.

C. Remove abandoned utilities. Indicated removal termination point for underground utilities on Record Documents.

D. Continuously clean-up and remove waste materials from site. Do not allow materials to accumulate on site.

E. Do not burn or bury materials on site. Leave site in clean condition.

2.9 DEMOLITION

A. Building Demolition: Demolish buildings completely and remove all building debris from the site. Use methods required to complete Work within limitations of governing regulations and as follows:

B. Locate demolition equipment throughout the building and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

C. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.

D. Demolish concrete and masonry in small sections.

E. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

F. Break up and remove concrete slab on grade, unless or shown to remain on drawings.

G. Below-Grade Construction: Demolish foundation walls and other below-grade construction, as follows:

H. Unless directed otherwise completely remove below-grade construction, including foundation walls and footings, and concrete slabs.

I. Break up and remove below-grade concrete slabs, unless indicated to remain.

J. Filling Below-Grade Areas: Completely fill below-grade areas and voids resulting from demolition of buildings and pavements with soil materials as required.

K. Damages: Promptly repair damages to adjacent facilities caused by demolition operations.

2.10 SELECTIVE REMOVAL AND TRIMMING

A. Selective Removal: Individual tree and shrub identified for removal as indicated on drawings according to 29 CFR 1910.266.

B. Selective Trimming: Individual limbs and branches cut back according to ANSI A300 Part 1 identified for removal as indicated on drawings. Follow recommendations of ANSI Z133 and best local practices for species involved.

2.11 REMOVED VEGETATION PROCESSING

A. Do not burn, bury, landfill, or leave on-site, except as indicated on drawings.

B. Trees: Sell if marketable.

2.12 REPAIR AND RESTORATION

A. Remaining Existing Facilities, Utilities, and Site Features: If damaged due to this work, repair or replace to original condition.

B. Vegetation: Replace damaged or destroyed vegetation identified to remain as indicated on drawings at no cost to Owner:
   1. Outside removal limits.

2.13 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Remove unused stockpiled subsoil. Grade stockpile area to prevent standing water.

C. Leave site clean and ready to receive work.

END OF SECTION

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SECTION 31 22 00
GRADING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Removal of subsoil.

B. Rough grading cutting, filling, rough contouring, compacting, and finished grading the site for site structures, building pads, and trenches.

C. Fine grading.

1.2 RELATED REQUIREMENTS

A. Section 31 10 00 - Site Clearing.

B. Section 31 23 16 - Excavation.

C. Section 31 23 23 - Fill.

1.3 REFERENCE STANDARDS

A. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017 (Reapproved 2025).

1.4 SUBMITTALS

A. Materials Source: Submit name of imported materials source.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with Department of Transportation Standards in the State of New York.

B. Maintain one copy of all construction documents on site.

PART 2 PRODUCTS

2.1 MATERIALS

A. Gravel: Excavated on-site.
   1. Graded according to ASTM D2487 Group Symbol GW, GP, or SP.

B. Other Fill Materials: See Section 31 23 23.

PART 3 EXECUTION

3.1 EXAMINATION

A. See Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify survey bench mark and intended elevations for grading areas are as indicated.

C. Verify the absence of standing or ponding water.

3.2 PREPARATION

A. Call Local Utility One Call Center @ 811in the State of New York, not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Stake and flag locations of known utilities.

D. Locate, identify, and protect above- and below-grade utilities to remain.

E. Notify utility company to remove and relocate utilities.

F. Provide temporary means and methods to remove standing or ponding water from areas prior to grading.

G. Protect site features to remain, including but not limited to bench marks, survey control points, and fences.

3.3 ROUGH GRADING

A. Excavate and fill subgrade material to elevations indicated on plans.

B. Horizontally bench existing slopes greater than 1:4.

C. Remove and replace unsuitable materials as specified fill.

3.4 FINE GRADING

A. Scrape and spread subgrade material uniformly smooth and without disruptions as indicated on drawings.

3.5 TOLERANCES

A. Top Surface: Plus or minus 1/2 inch.

3.6 FIELD QUALITY CONTROL

A. See Section 31 23 23 for compaction density testing.

B. Perform laboratory material tests in accordance with Department of Transportation Standards in the State of New York.

C. Perform in place compaction tests in accordance with Department of Transportation Standards in the State of New York.
   1. Density Tests.
   2. Moisture Tests.

D. When tests indicate work does not meet specified requirements, remove work, replace and retest.

3.7 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Leave site clean and raked, ready to receive work.

END OF SECTION

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SECTION 31 23 16
EXCAVATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Dewatering.

B. Excavation.

C. Soil densification

1.2 RELATED REQUIREMENTS

A. Section 31 23 16.13 - Trenching.

B. Section 31 23 23 - Fill.

1.3 REFERENCE STANDARDS

1.4 SUBMITTALS

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

B. Field Quality Control Submittals: Document visual inspection of loadbearing excavated surfaces.

C. Shop Drawings: Indicated soil densification grid for each size and configuration footing requiring soils densification.

1.5 QUALITY ASSURANCE

A. Fill Material Tests: A sieve analysis, loss on ignition, and magnesium sulfate soundness test shall be taken for each type of material from each source of material. Tests will be in accordance with appropriate ASTM methods. Tests shall be taken by an approved independent laboratory and results submitted directly to the Architect before such material is used for fill. Material which fails to meet the specified requirements shall be removed from the site. Payment for tests shall be as described in General Requirements.

1.6 FIELD CONDITIONS

A. Ambient Conditions: Do not perform excavation during periods of heavy rain as directed by Architect.

B. Utility Location: Notify Call Before You Dig (811) before excavation to request approximate underground utility marking.

PART 2 PRODUCTS - NOT USED

2.1 NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify survey bench mark elevations are as indicated on drawings.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate and identify known utilities to remain and protect from damage.

C. Call Local Utility One Call Center @ 811in the State of New York, not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

D. Notify utility company to remove and relocate utilities.

3.3 DEWATERING

A. Prevent surface water and groundwater from entering excavations and surrounding areas.

B. Dispose of water without causing surface erosion, sediment buildup, or endangering public health or property.

3.4 EXCAVATION

A. General Excavation:
   1. Excavate to indicated contours, elevations, and grades.

B. Excavation to accommodate foundations, underground tanks, and underground utilities.
   1. Excavate to specified elevations.

C. Notify Architect of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

D. Remove lumped subsoil, boulders, and rock up to 1/3 cubic yard measured by volume.

E. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with Section 31 23 23 and Section 31 23 16.13.

F. Repair or replace any items indicated to remain damaged by excavation.

3.5 FIELD QUALITY CONTROL

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

B. Provide access for visual inspection of loadbearing excavated surfaces by Architect before proceeding with work.

3.6 PROTECTION

A. Divert surface water away from excavations.

B. Keep excavations free of standing water.

C. Maintain stability of banks and loose soils; prevent from falling into excavations.

D. Maintain excavations in satisfactory, undisturbed condition.

E. Protect bottom of excavations from freezing.

F. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earth operations.

END OF SECTION

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SECTION 31 23 16.13
TRENCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Trench excavation.

B. Utility bedding and cover.

C. Backfill and compaction.

D. Dewatering.

E. Compacted fill from top of utility bedding to subgrade elevations.

F. Backfilling and compaction.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading.

B. Section 31 23 16 - Excavation.

C. Section 31 23 23 - Fill.

1.3 DEFINITIONS

A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2025.

B. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012 (Reapproved 2021).

D. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method; 2024.

E. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)); 2012 (Reapproved 2021).

F. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2015.

G. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2023.

H. NRMCA CLSM - Guide Specification for Controlled Low Strength Materials; Current Edition.

1.5 SUBMITTALS

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

B. Samples: 10 lb sample of each type of fill; submit in air-tight containers to testing laboratory.

C. Source Quality Control Submittals: Submit name of imported materials source.
   1. Results of gradation tests on proposed and actual materials used.

D. Field Quality Control Submittals:
   1. Results of compaction density tests.

1.6 QUALITY ASSURANCE

A. Product Data: Submit data for geo-textile fabric indicating fabric and construction.

B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. See Section 01 74 19 - Construction Waste Management and Disposal for packaging waste requirements.

B. Deliver fill to project site in advance of need.

C. When fill materials need on-site storage, locate stockpiles where indicated on drawings.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

1.8 QUALITY ASSURANCE

A. Perform work in accordance with Department of Transportation Standards in the State of New York.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 COORDINATION

A. See Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. General Fill: Comprised of sand and gravel; free of shale, clay, friable materials, and debris.

B. See Section 31 23 23 - Fill.

2.2 ACCESSORIES

2.3 SOURCE QUALITY CONTROL

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

B. Test fill materials in accordance with specified standard before delivery to site.

C. Nonconforming Materials: Change and retest.

D. Provide materials of each type from same source or as directed by Architect.

PART 3 EXECUTION

3.1 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Protect survey benchmarks, control points, and monuments from excavating equipment and vehicular traffic.

C. Protect existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Locate and identify existing utilities to remain as indicated on drawings and protect from damage.

E. Notify utility company to remove and relocate utilities as indicated on drawings.

3.2 DEWATERING

A. Prevent surface water and groundwater from entering excavations and surrounding areas.

B. Dispose of water without causing surface erosion, sediment buildup, or endangering public health or property.

3.3 TRENCH EXCAVATION

A. Grade top perimeter of excavation to prevent surface water collection.

B. Notify Architect of unexpected subsurface conditions and discontinue affected work in area until notified to resume.

C. General: Cut trenches neat and clean.
   1. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.

D. Utility Preparation: Rake trench bottom to uniform grade.
   1. Remove unsuitable subgrade and backfill.
   2. Compact subgrade to density equal to or greater than subsequent fill material requirements.

E. Maintain trenches and prevent loose soil or rocks from entering.

3.4 UTILITY BEDDING AND COVER

A. Crushed Stone: Compact to 95 percent of maximum dry density.
   1. Bedding: Fill to subgrade elevation; rake smooth.

B. Sand: Compact in maximum 8-inch lifts to 95 percent of maximum dry density.
   1. Bedding: Fill to subgrade elevation; rake smooth.

C. Filter Fabric: Position geosynthetic smooth and wrinkle-free on prepared surface; unroll or unfold carefully; avoid stretching.

D. Concrete: Place in accordance with ACI PRC-304.

3.5 FLOWABLE FILL

A. Completely cover utilities in accordance with NRMCA CLSM.

B. Do not advance open trench more than 100 feet ahead of installed pipe.

C. Excavate bottom of trenches maximum of 2 feet wider than outside diameter of pipe or as indicated on plans.

D. Excavate trenches to depth indicated on drawings. Provide uniform and continuous bearing and support for bedding material and pipe utilities.

E. When Project conditions permit, slope side walls of excavation starting 2 feet above top of pipe. When side walls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this section or as required by OSHA.

F. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Architect/Engineer until suitable material is encountered. Notify Architect/Engineer, and request instructions prior to excavation.

G. Cut out soft areas of sub-grade not capable of compaction in place. Backfill with approved fill material and compact to density equal to or greater than requirements for subsequent backfill material.

H. Correct over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Architect/Engineer.

3.6 BACKFILL AND COMPACTION

A. Backfill to contours and elevations indicated on drawings using unfrozen materials.

B. Employ placement method that does not disturb or damage other work.

C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen, or spongy subgrade surfaces.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. General Fill: Place and compact materials in equal continuous layers not exceeding 8 inches compacted depth.

F. Correct areas that are over-excavated.

G. Compaction Density Unless Otherwise Specified or Indicated:
   1. Under paving, slabs-on-grade, and similar construction: 97 percent of maximum dry density.

H. Reshape and re-compact fills subjected to vehicular traffic.

I. Place geotextile fabric over bedding fill prior to placing subsequent fill materials.

J. Place fill material in continuous layers and compact in accordance with schedule at end of this section.

K. Employ placement method that does not disturb or damage foundation perimeter drainage, utilities in trench, and other below grade improvements.

L. Do not leave open trenching at end of working day.

M. Protect open trenches at all times during installation of trenching.

3.7 TOLERANCES

A. See Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation from Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

C. Maximum Variation from Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.8 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.

C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D1557 modified proctor, AASHTO T 180, or ASTM D698 standard proctor.

D. Nonconforming Work: For failed tests, remove work, replace, and retest.

E. Frequency of Tests: Backfill mid-point and top.

3.9 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Stockpile excavated material re-used in area designated on-site; see Section 31 22 00.

C. Remove excavated material that is not required or unsuitable for re-use from site.

3.10 PROTECTION

A. Divert surface water away from excavations.

B. Keep excavations free of standing water.

C. Maintain stability of banks and loose soils; prevent from falling into excavations.

D. Maintain excavations in neat and square, undisturbed condition.

END OF SECTION

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SECTION 31 23 23
FILL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Filling, backfilling, and compacting for footings, slabs-on-grade, paving, and utilities within the building.

B. Backfilling and compacting for utilities outside the building to utility main connections.

C. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading: Site grading.

B. Section 31 23 16 - Excavation: Removal and handling of soil to be re-used.

C. Section 31 23 16.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

D. Section 32 91 19 - Landscape Grading.

1.3 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

1.4 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2025.

B. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2025.

C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012 (Reapproved 2021).

D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)); 2012 (Reapproved 2021).

E. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017 (Reapproved 2025).

1.5 SUBMITTALS

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

B. Soil Samples: 10 pounds sample of each type of fill; submit in air-tight containers to testing laboratory.
   1. Provide test of topsoil at a rate of one sample per 100 cubic yards.
   2. Stockpiled on-site topsoil shall be sampled from multiple locations within the stockpile.

C. Materials Sources: Submit name of imported materials source.

D. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
   1. Fill Composition Test Reports shall be conducted within twelve months prior to submission.

E. Compaction Density Test Reports.

F. Testing Agency Qualification Statement.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles where designated.
1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
2. Prevent contamination.
3. Protect stockpiles from erosion, deterioration, and offsite impacts of materials.

1.8 WARRANTY

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

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. General Fill: Native or imported material.
1. Material used to meet grade, unless otherwise noted.
2. Free of lumps larger than 3 inches, rocks larger than 3 inches, organics, trash, and debris.
3. Complying with ASTM D2487 Group Symbol GW, GP, GM, SM, SW, or SP.

B. Structural Fill: Conforming to DOT Standards in the State of New York.
1. Structural fill shall meet all requirements specified for Type 2, (Item 733-0402) of the NYSDOT Standard Specification.

C. Granular Fill: Coarse aggregate, conforming to DOT Standards in the State of New York.
1. Granular fill shall meet all requirements specified for Type 2 (Crushed Ledgerock) or Type 4 Subbase in the NYSDOT Standard Specification.
a. Where use of recycled materials is indicated on Drawings, refer to NYSDOT Standard Specifications (Section 733-19 - Recycled Materials Approved for Use as Earthwork Material).

D. Sand- Fill Type Cushion Sand: Natural river or bank sand; free of silt, clay, loam, friable or soluble materials, and organic matter.
1. Graded in accordance with ASTM C136/C136M; within the following limits:
a. 1/4 inch sieve: 100 percent passing.
b. No. 50 sieve: 0 to 35 percent passing.
c. No. 100 sieve: 0 to 10 percent passing.

E. Sand- Fill Type Concrete Sand: Natural river or bank sand; free of silt, clay, loam, friable or soluble materials, and organic matter.
1. Graded in accordance with ASTM C136/C136M; within the following limits:
a. No. 4 sieve: 90 - 100 percent passing.
b. No. 8 sieve: 75 - 100 percent passing.
c. No. 16 sieve: 50 - 85 percent.
d. No. 30 sieve: 25 - 60 percent.
e. No. 50 sieve: 10 to 30 percent passing.
f. No. 100 sieve: 1 to 10 percent passing.
g. No. 200 sieve (wet): 0 - 3 percent passing.

F. Topsoil: See Section 32 91 19.

G. Drainage Fill: Material shall consist of crushed stone or screened gravel:

U.S. Sieve No.	Percent Passing by Weight
1 inch	100
1/2 inch	30-100
1/4 inch	0-30
No. 10	0-10
No 20	0-5

H. Pipe Bedding Stone: Material shall consist of crushed stone:
1. Meeting all requirements specified for Type 1 and Type 2 (Item 703-4) of the NYSDOT Standard Specification mixed in a 50/50 proportion.

2.2 ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, woven, fabric ; 500X manufactured by Mirafi , or approved equal.

B. Filter Fabric: Non-biodegradable, non-woven, fabric; Mirafi 140N, or approved equal.

C. Geotextile Fabric for Perforated Drain Pipe: Non-biodegradable, non-woven, fabric; Mirafi 140N, or approved equal.

2.3 SOURCE QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of soil material.

B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

C. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that survey bench marks and intended elevations for the Work are as indicated.

B. Identify required lines, levels, contours, and datum locations.

C. See Section 31 22 00 for additional requirements.

D. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

E. Verify structural ability of unsupported walls to support imposed loads by the fill.

F. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

G. Verify areas to be filled are not compromised with surface or ground water.

3.2 PREPARATION

A. Scarify subgrade surface to a depth of 8 inches.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with Fill Type directed by Owner's Representative.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

E. Under structural elements and paving, the subgrade and subbase shall be proof rolled. Contact Engineer or Owners representative 24 hours before testing. If subgrade stabilization or undercutting is designed for the project, then proof rolling shall be used to verify the undercut replacement material stability.

F. Proof rolling deflections and soil conditions that are observed during construction determine if the planned subgrade treatment must be adjusted. Adjustment of subgrade treatment to fit field conditions is essential and is the responsibility of the contractor.

G. When rutting and deflection occur under wheels of 10-wheel dump truck engineer or representative will require corrective action.

H. Improve subbase or subgrade by undercutting wet material, aeration of wet soil or use of additional subbase material. Compact material and proof roll again.

I. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.3 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

G. Slope grade away from building minimum 2 percent slope for minimum distance of 5 feet , unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

H. Correct areas that are over-excavated.
   1. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 95 percent of maximum dry density.
   2. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.

I. Compaction Density Unless Otherwise Specified or Indicated:
   1. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.

J. Reshape and re-compact fills subjected to vehicular traffic.

K. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Architect. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

L. Remove surplus backfill materials from site.

3.4 FILL AT SPECIFIC LOCATIONS

A. Use fill type indicated unless otherwise indicated in the geotechnical report.

B. Structural Fillunder building footprints:

1. Use structural fill.
2. Fill up to subgrade elevations.
3. Maximum depth per lift: 8 inches, compacted.
4. Compact to minimum 95 percent of maximum dry density.

C. At Foundation Walls and Footings:
1. Use structural fill.
2. Fill up to subgrade elevation.
3. Maximum depth per lift: 8 inches, compacted.
4. Compact each lift to 95 percent of maximum dry density unless otherwise specified in the geotechnical report.
5. Do not backfill against unsupported foundation walls.
6. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.

D. Over Subdrainage Piping at Foundation Perimeter:
1. Drainage fill and geotextile: Section 31 05 19.
2. Cover drainage fill with structural fill.
3. Compact to 95 percent of maximum dry density.

E. Over Buried Utility Piping, Conduits, and Duct Bank in Trenches:
1. Bedding: Use Fill Type indicated on Drawings.
2. Cover with Select Native fill unless otherwise indicated.
3. Fill up to subgrade elevation.
4. Compact in maximum 8 inch lifts to 95 percent of maximum dry density.

F. At Lawn Areas:
1. Use general fill.
2. Compact to 95 percent of maximum dry density.
3. See Section 32 91 19 for topsoil placement.

3.5 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1 inch from required elevations.

C. Top Surface of Filling Within Building Areas: Plus or minus 1/2 inch from required elevations.

3.6 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D3017, or ASTM D6938. Contractor shall be responsible for providing compaction testing as part of their base bid contract. Slab testing shall be every 100 square feet of area or every 50-ft of trench excavation.

C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with AASHTO T 180, ASTM D 1557 ("modified Proctor"), ASTM D 698 ("standard Proctor"), AASHTO T 180, ASTM D 1557 ("modified Proctor"), ASTM D 698 ("standard Proctor"), AASHTO T 180, ASTM D 1557 ("modified Proctor"), or ASTM D 698 ("standard Proctor").

D. If tests indicate work does not meet specified requirements, remove work, replace and retest.

E. Frequency of Tests: 1 per 2500 sq. ft, or as directed by Engineer.

F. Proof roll compacted fill at surfaces that will be under slabs-on-grade, pavers, and paving.

3.7 CLEANING

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.8 PROTECTION OF FINISHED WORK

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting finished work.

B. Reshape and re-compact fills subjected to vehicular traffic.

END OF SECTION

SECTION 32 11 20
SUBBASE AND AGGREGATE BASE COURSES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Subbase course.

B. Geosynthetic reinforcement.

C. Aggregate base course.

1.2 REFERENCE STANDARDS

A. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017 (Reapproved 2025).

B. ASTM D3665 - Standard Practice for Random Sampling of Construction Materials; 2024.

1.3 SUBMITTALS

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

B. Samples: 10 lb sample of each type of aggregate; submit in air-tight containers to testing laboratory.

C. Test Reports:
   1. Aggregate Composition: Results of laboratory tests on proposed and actual materials used.
   2. Compaction Density: Results of laboratory tests on compacted course.

D. Source Quality Control Submittals: Submit name of imported materials source.

E. Field Quality Control Submittals: Submit compaction density testing results.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified and with minimum three years of documented experience.

B. Documents at Project Site: Maintain at project site one copy of manufacturer's instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When aggregate materials need to be stored on site, locate where indicated on drawings.

C. Aggregate Storage: Prevent material intermixing, contamination, and deterioration.

PART 2 PRODUCTS

2.1 MATERIALS

A. Subbase Course:
   1. Coarse Aggregate: Coarse aggregate, conforming to Department of Transportation Standards in the State of New York.

B. Geosynthetic:
   1. Geocell Grid: High density polyethylene, perforated.
      a. Cell Depth: 3 inches (76 mm).
      b. Cell Area: 45 sq in (290 sq cm), nominal.

C. Aggregate Base Course:
   1. Coarse Aggregate: Conforming to Department of Transportation Standards in the State of New York.

2.2 SOURCE QUALITY CONTROL

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

B. If tests indicate materials do not meet specified requirements, change material and retest.

C. Provide materials of each type from same source throughout the Work.

D. For aggregate materials using classification complying with ASTM D2487, provide testing before delivery to site.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that survey bench marks and intended elevations for the work are as indicated.

B. Verify substrate has been inspected, and gradients and elevations are correct and dry.

3.2 PREPARATION

A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and recompacting.

B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.3 PLACEMENT

A. Spread course uniformly over prepared substrate to a total compacted thickness:
   1. Subbase Thickness: According to design drawings.
   2. Install geosynthetic reinforcement on substrate in accordance with manufacturers instructions.
   3. Aggregate Base Thickness: According to design drawings.

B. Place course in maximum 4 inch layers and roller compact to specified density.

C. Level and contour surfaces to elevations and gradients indicated.

D. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

A. Variation From Design Elevation: Within 1/2 inch.

B. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

C. Scheduled Compacted Thickness: Within 1/4 inch.

3.5 FIELD QUALITY CONTROL

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

B. Frequency of Tests: In accordance with ASTM D3665.

C. Remove, replace, and retest work that does not meet specified requirements.

3.6 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Remove unused materials and grade areas to prevent standing surface water.

END OF SECTION

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SECTION 32 12 16
ASPHALT PAVING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Single course bituminous concrete paving.

B. Double course bituminous concrete paving.

C. Surface sealer.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading: Preparation of site for paving and base.

B. Section 31 23 23 - Fill: Compacted subgrade for paving.

C. Section 32 11 20 - Subbase and Aggregate Base Courses.

1.3 REFERENCE STANDARDS

A. AI MS-2 - Asphalt Mix Design Methods; 2015.

B. AI MS-19 - Basic Asphalt Emulsion Manual; 2008.

C. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction; 2009a.

1.4 ADMINISTRATIVE REQUIREMENTS

A. See Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

B. Convene pre-installation meeting a minimum of one week prior to commencing work of this section. Attendance by Architect/ Engineer, Construction Manager, Owner, and Contractor.

C. Schedule a proof roll of subbase prior to asphalt installation.

1.5 SUBMITTALS

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

B. Submit proposed mix design of each class of mix for review prior to beginning of Work.
   1. Each mix design shall be certified and signed by the respective State Department of Transportation within two years preceding submittal.

C. Product Data: Provide product data on each additional product required, including, but not limited to primer, tack coat, and joint sealant.

D. Asphalt Pavement Work Plan: Indicate paving pass width, paving directions, site access, and coordination of timing with other installations.

E. Installers qualification statement.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with Department of Transportation Standards in the State of New York.

B. Mixing Plant: Conform to Department of Transportation Standards in the State of New York.

C. Obtain materials from same source throughout.

D. Installer Qualifications: Company specializing in performing work of this section with minimum 10 years documented experience.

1.7 FIELD CONDITIONS

A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.

B. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen, and as further provided:

TEMPERATURE REQUIREMENTS	
Nominal Compacted Lift Thickness	**Surface Temperature Minimum**
No greater than 1 inch	50 degrees F.
1 inch through 3 inches	45 degrees F.
Greater than 3 inches	40 degrees F.

C. Place bitumen mixture when temperature is not more than 15 F degrees below bitumen supplier's bill of lading and not more than maximum specified temperature.

PART 2 PRODUCTS

2.1 MATERIALS

A. Asphalt Cement: Conforming to Department of Transportation Standards in the State of New York.

B. Aggregate for Binder Course: Conforming to Department of Transportation Standards in the State of New York.

C. Aggregate for Wearing Course: Conforming to Department of Transportation Standards in the State of New York.

D. Fine Aggregate: Sand in conformance with Department of Transportation Standards in the State of New York.

E. Mineral Filler: Finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter.

F. Primer: Homogeneous, medium curing, liquid asphalt in accordance with Department of Transportation Standards in the State of New York.

G. Tack Coat: Homogeneous and Emulsified asphalt conforming to Department of Transportation Standards in the State of New York.

H. Joint Sealant: Asphalt joint sealant meeting ASTM D6690 Type II or IV requirements.

I. Seal Coat: AI MS-19, Seal Master LV concentrate pavement sealer. Manufactured by SealMaster, 800-395-7325, www.sealmaster.net or approved equal.

J. Reclaimed Asphalt Pavement (RAP): Processed material obtained by milling or full depth removal of existing asphalt concrete pavements.

2.2 ASPHALT PAVING MIXES AND MIX DESIGN

A. Use dry material to avoid foaming. Mix uniformly.

B. Binder Course: State of New York Highways standards: Superpave 25mm Binder.

C. Wearing Course: State of New York Highways standards: Superpave 9.5mm Top Course.

D. Submit proposed mix design of each class of mix for review prior to beginning of work.

2.3 SOURCE QUALITY CONTROL

A. Test mix design and samples in accordance with AI MS-2.

B. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

2.4 EQUIPMENT

A. Hauling Equipment
1. Trucks used for hauling asphalt shall have clean, smooth, tight metal beds.
a. Any debris from previous loads hauled shall be removed.
2. The inside of the truck box shall be coated with a Department of Transportation approved release agent.
a. Petroleum products, (including but not limited to fuel oil, diesel fuel, kerosene, and gasoline) or solvents shall not be used.
3. Trucks shall be equipped with waterproof covers that totally cover the asphalt load, the front of which is attached to prevent wind from entering under tarp during transport.

B. Pavers
1. Units shall be self-propelled and include receiving hopper, transfer system, and activated screed.
2. Units shall provide automatic slope control.
3. Units shall be equipped with screed heaters and joint pre-heaters.

C. Rollers
1. Rollers shall be of vibratory or static steel wheel design, of sufficient weight to adequately provide compaction rate specified.
2. Furnish the following minimum roller quantities per project:
a. Total Rollers: Two.
b. Total Rollers: Three, when tonnage is 300 tons per day or greater.
c. In every instance, one of the required rollers shall be of a Vibratory Wheel design.
3. Equipment shall be free from oil leaks.

PART 3 EXECUTION

3.1 EXAMINATION

A. See Section 01 70 00 - Execution and Closeout Requirements: Verification of existing conditions before starting work.

B. Verify that compacted subgrade is dry and ready to support paving and imposed loads.

C. Verify gradients and elevations of base are correct.

D. Verify that site improvement items scheduled within the paved area, including but not limited to bollards, sign posts, fence posts, gate operator foundations, and any utilities servicing such equipment are installed prior to paving operations.

E. Verify gutter drainage grilles and frames manhole frames and curbing are installed in correct position and elevation.

3.2 AGGREGATE BASE COURSE

A. See Section 32 11 23 - Aggregate Base Courses.

3.3 PREPARATION - PRIMER

A. Apply primer in accordance with manufacturer's instructions and in conformance with Department of Transportation Standards in the State of New York.
   1. Primer shall be placed on aggregate base in all Department of Transportation right-of-ways.

B. Apply primer on aggregate base or subbase at uniform rate of 1/2 gal/sq yd.

3.4 PREPARATION - TACK COAT

A. Apply tack coat in accordance with manufacturer's instructions.

B. Apply tack coat in accordance with Department of Transportation Standards in the State of New York.
   1. Apply tack coat between all pavement layers within Department of Transportation right-of-ways.
   2. Apply tack coat between pavement layers when:
      a. Pavement is exposed to traffic.
      b. Pavement is exposed to dirt and dust.
      c. Forty eight hours have passed between courses.

C. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of .03 to .10 gallons per square yard.

D. Apply tack coat to all contact surfaces of curbs, gutters, manholes, and adjacent pavement edges.

E. Paving shall not commence until tack coat emulsion has broken or is tacky to the touch.

3.5 PREPARATION – SURFACE SEALER

A. Surface must be clean and free of all loose material and dirt.

B. Pavement surface repairs shall be made with suitable hot or cold asphalt mix.

C. Cracks shall be filled with hot or cold pour filler.

D. Treat all grease, oil, gasoline spots or stains with SealMaster Petro Seal or Prep Seal, or approved equal.

3.6 PLACING ASPHALT PAVEMENT - SINGLE COURSE

A. Install Work in accordance with Department of Transportation Standards in the State of New York.

B. Place asphalt within 24 hours of applying primer or tack coat.

C. Install gutter drainage grilles and frames in correct position and elevation.

D. Place asphalt wearing course to thickness as identified on construction drawings.

E. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
   1. Compaction should occur when asphalt course is between 150 and 185 degrees F.

F. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.7 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

A. Place asphalt binder course within 24 hours of applying primer or tack coat.

B. Place asphalt wearing course within two hours of placing and compacting binder course.

C. Install gutter drainage grilles and frames in correct position and elevation.

D. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
   1. Compaction should occur when asphalt course is between 150 and 185 degrees F.

E. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.8 SEAL COAT

A. Shall be applied by either pressurized spray application equipment or self propelled squeegee equipment. *Pressurized spray equipment shall be capable of spraying pavement sealer with sand added, maintain continuous agitation or mixing capabilities to maintain homogenous consistency of pavement sealer throughout the application process.* Self-propelled squeegee equipment shall have at least 2 squeegee or brush devices(one behind the other).

B. Hand squeegee and brushes shall be acceptable in areas where practicality prohibits the use of mechanized equipment.

C. Limitations: Shall not be applied when temperatures are expected to drop below 50 degrees F at anytime within a 24 hour period after application. When indicated to be applied over new asphalt surfaces, such surfaces shall be allowed to cure a minimum of four weeks under ideal weather conditions (70 degrees F) before application of surface sealer.

D. Mixing procedures for optimum results shall conform to product specifications.

E. Apply a minimum of 2 coats.

F. Apply at a rate of .11 to .13 gallon per square yard, (70-82 square feet per gallon) per coat.

3.9 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

C. Compacted Thickness: Within 1/4 inch of specified or indicated thickness.

D. Variation from True Elevation: Within 1/2 inch.

3.10 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for quality control.

B. Provide field inspection and testing. Take samples and perform tests in accordance with Department of Transportation Standards in the State of New York.

3.11 CLOSEOUT ACTIVITIES

A. See Section 01 70 00 - Execution and Closeout Requirements

B. Documentation: Provide copies of Truck Loading Slips (bill of lading) for each load of each design mix of asphalt material used on site.

3.12 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury for 3 days or until surface temperature is less than 140 degrees F.

B. Surface Sealer drying time: 8 hours max.

END OF SECTION

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SECTION 32 12 17
ASPHALT PAVING JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Asphalt and concrete paving crack sealants

B. Hot pour mastics

1.2 RELATED REQUIREMENTS

A. Section 32 12 16 - Asphalt Paving

B. Section 32 13 13 - Concrete Paving

1.3 REFERENCE STANDARDS

A. ASTM D113 - Standard Test Method for Ductility of Asphalt Materials; 2017

B. ASTM D3111 - Standard Test Method for Flexibility Determination of Hot-Melt Adhesives by Mandrel Bend Test Method

C. ASTM D36 - Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)

D. ASTM D5078 - Standard Specification for Crack Filler, Hot Applied, for Asphalt Concrete and Portland Cement Concrete Paving.(Reapproved 2016)

E. ASTM D5329 - Standard Test Methods for Sealants and Fillers, Hot-Applied, for Joints and Cracks in Asphalt Pavements and Portland Cement Concrete Pavements; 2016

F. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements; 2015

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate work of this section with Owner, Architect, and all other trades involved in the project.
   1. Ensure work of this section is scheduled and carried out so as not to limit access to site.

B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

1.5 SUBMITTALS

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

B. Product Data: Provide manufacturer's product data sheets, performance criteria and installation instructions.

C. Manufacturer's Instructions: Indicate preparation requirements, application limitations, and environmental conditions required for installation.

D. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with Department of Transportation Standards in the State of New York in DOT Right-of-Ways.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

D. Obtain materials from same source throughout project.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products specified herein to project site in manufacturer's unopened, undamaged packaging..

B. Store products under cover and elevated above grade, and as recommended by manufacturer.
1. Prevent damage due to moisture, temperature extremes, or contaminants.

1.8 FIELD CONDITIONS

A. See Section 01 60 00 - Product Requirements,

B. Ensure all application limitations including manufacturer's, temperature, and weather are within specified limits.

1.9 WARRANTY

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

B. Provide one year manufacturer warranty for each product.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Maxwell Products, Inc.: www.maxwellproducts.com.

B. P&T Products, Inc.: www.p-tproductsinc.com.

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

2.2 MATERIALS

A. Joint Sealants for parking lots and non-DOT right-of-ways.
1. Polymer modified crack and joint sealant
2. Conforming to ASTM D5078
3. Basis of Design Product: Elastoflex 650 by Maxwell Products.
a. Or approved equal
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Joint Sealants for DOT right-of-ways.
1. Polymer modified crack and joint sealant
2. Conforming to ASTM D6690 Type I
3. Basis of Design Product: Elastoflex 410 by Maxwell Products.
a. Or approved equal
4. Substitutions: See Section 01 60 00 - Product Requirements.

C. Hot Pour Mastic for wide cracks or surface repair:
   1. Basis of Design Product: GAP B by Maxwell Products.
      a. Or approved equal
   2. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that all areas to receive work of this section are available, and conditions are favorable for work to proceed.

3.2 PREPARATION

A. Prepare cracks for sealing on the same day they are to be sealed. Install suitable traps or devices on the compressed air equipment to prevent moisture and oil from contaminating the joint surfaces. Maintain these devices and see that they are functioning properly.

B. Hot Air Lance: In order to thoroughly clean and dry cracks of dust, dirt, foreign material, sand and any other extraneous materials immediately prior to sealing joints. Using compressed air no lower than 90 cfm to 185 cfm, the operator shall blow dry the affected cracks to receive the hot pour sealant. To clean and ensure a dry condition, a hot air lance capable of reaching temperatures ranging from a low end 600 degrees F to 2,000 degrees F shall be used. Do not burn, or scorch the adjoining pavement when using a hot air lance.
   1. The hot air lance preparation shall not exceed 200 yards in front of the sealing operation. The compressor delivering the pressurized air shall have functional water and oil separators to ensure no moisture is injected into the cracks.

3.3 SEALANT MELTING

A. Heat and melt the sealant in a melter constructed either as a double boiler filled with a heat- transfer medium between the inner and outer shells, or with internal tubes or coils carrying the sealant through a heated oil bath and into a heated double wall hopper. The melter will be equipped with separate thermometers to indicate the temperature of the heat transfer medium and the sealant material, positive temperature controls and with a mechanical agitator and recirculating pumping of sealant to assure a homogeneous blend of the sealant. Maintain the sealant temperature inside the tank at the manufacturer’s recommended pouring temperature as indicated on the material packaging of the sealant.

B. To ensure proper sealant application temperature check the discharge of the sealant with a non-contact infrared thermometer. Discharge the sealant at a temperature between the manufacturer's recommended pouring and safe heating temperatures indicated on the material packaging.

C. Sealing is not permitted if the melter and discharge temperatures do not meet with the requirements described above. Circulate the sealant from the discharge hose and the melter to maintain the proper sealant pouring temperature.

D. Do not use sealant material heated beyond the safe heating temperature. If the manufacturer's recommendations allow the sealant to be reheated or heated in excess of six hours, recharge the melter with fresh material amounting to at least 20 percent of the volume of the material remaining in the melter.

3.4 PLACING JOINT SEALANT

A. Sealing is to be done when ambient air temperature is at or above 40F. Seal the routed crack by placing the applicator wand in or directly over the recess and carefully discharge the sealant. Strike-off the sealant flush with the pavement surface so that only a narrow thin film of material measuring no wider than 2 inches wide and 1/16 inch thick is allowed on the pavement surface after sealing the reservoir. Properly sealed joints shall be watertight.

B. A low pressure, light spray of water or a manufacturer recommended barrier spray may be used to accelerate cooling of the sealant and allow traffic on it without tracking. Blotting the sealant with fine aggregate is not allowed.

C. Remove and dispose sealant in excess of the specified thin "film" dimensions or that has not bonded to both sides of the reservoir.

3.5 WIDE CRACKS AND PATCHING

A. Cracks wider than one inch, small potholes and other pavement imperfections as outlined by the Engineer are to be repaired and filled with the hot pour mastic.

B. Preparing the repair areas is the same process used for crack sealing as outlined above. Equipment used for the heating of the mastic shall conform with the same standards outlined for crack sealing with the exception of having any activity requiring the recirculation or pumping of the material. Due to the high abrasive content of the aggregate no pumping can be used. A gravity discharge directly into the repair area or a box screen applicator shall be used to fill and repair the pavement. To install a proper filled and waterproof repair heated flat stock steel shall be used to ensure the material overbids the repair by 2 inches on all sides. The hot steel plate shall be used to smooth the surface of the mastic.

C. When manufacturers require a primer prior to installation or a finishing stone topping, it shall be applied in accordance with the materials installation instructions supplied by the manufacturer.

D. No traffic shall be allowed on top of the mastic repair unit the temperature cools to ensure no damage to the repair or oncoming traffic.

3.6 FIELD QUALITY CONTROL

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

3.7 PROTECTION

A. Protect installed joint sealants and patches from subsequent construction operations.

B. Protect sealed areas from vehicular and pedestrian traffic until products have set sufficiently to prevent tracking of sealants.

END OF SECTION

SECTION 32 13 13
CONCRETE PAVING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Paving assemblies.

B. Form materials.

C. Reinforcement.

D. Concrete materials.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 07 92 00 - Joint Sealants: Sealing joints.

C. Section 31 22 00 - Grading: Preparation of site for paving and base and preparation of subsoil at pavement perimeter for planting.

D. Section 31 23 23 - Fill: Compacted subbase for paving.

E. Section 32 11 20 - Subbase and Aggregate Base Courses.

F. Section 32 12 16 - Asphalt Paving: Asphalt wearing course.

1.3 REFERENCE STANDARDS

A. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.

B. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

C. ACI PRC-305 - Guide to Hot Weather Concreting; 2020.

D. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.

E. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

F. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2026.

G. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2026.

H. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2026a.

I. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2026.

J. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2025a.

K. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types); 2023.

L. ASTM D1752 - Standard Specification for Preformed Sponge Rubber, Cork, and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction; 2018 (Reapproved 2023).

1.4 SUBMITTALS

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

B. Product Data: Provide data on joint filler, admixtures, and curing compound.

C. Samples: Submit two sample panels, 12 by 12 inch in size illustrating exposed aggregate finish.

PART 2 PRODUCTS

2.1 PAVING ASSEMBLIES

A. Comply with applicable requirements of Department of Transportation Standards in the State of New York.

2.2 FORM MATERIALS

A. Form Materials: As specified in Section 03 30 00, conform to ACI SPEC-301.

B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D1751) or sponge rubber or cork (ASTM D1752).
1. Products:

2.3 REINFORCEMENT

A. Dowels: ASTM A615/A615M, Grade 40 - 40,000 psi yield strength; deformed billet steel bars; unfinished finish.

2.4 CONCRETE MATERIALS

A. Obtain cementitious materials from same source throughout.

B. Concrete Materials: As specified in Section 03 30 00.

2.5 ACCESSORIES

A. Curing Compound: Conforming with Department of Transportation Standards in the State of New York.

B. Liquid Surface Sealer: Conforming with Department of Transportation Standards in the State of New York.

2.6 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended by manufacturer.

D. Concrete Properties:

1. Compressive strength, when tested in accordance with ASTM C39/C39M at 28 days; 4,000 psi.
2. Fly Ash Content: Maximum 20 percent of cementitious materials by weight.
3. Cement Content: Minimum 605 lb per cubic yard.
4. Water-Cement Ratio: Maximum 40 percent by weight.
5. Total Air Content: 5.0 to 8.0 percent, determined in accordance with ASTM C173/C173M.
6. Maximum Slump: 4 inches.
7. Maximum Aggregate Size: 1 inch.

2.7 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

B. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

3.2 SUBBASE

A. See Section 32 11 20 for construction of base course for work of this Section.

3.3 PREPARATION

A. Moisten base to minimize absorption of water from fresh concrete.

B. Coat surfaces of manhole frames with oil to prevent bond with concrete pavement.

C. Notify Architect minimum 24 hours prior to commencement of concreting operations.

3.4 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.5 REINFORCEMENT

A. Place reinforcement at as indicated on the construction drawings.

B. Interrupt reinforcement at expansion joints.

3.6 COLD AND HOT WEATHER CONCRETING

A. Follow recommendations of ACI PRC-305 when concreting during hot weather.

B. Follow recommendations of ACI PRC-306 when concreting during cold weather.

C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

3.7 PLACING CONCRETE

A. Coordinate installation of snow melting components.

B. Place concrete in accordance with ACI PRC-304.

C. Do not place concrete when base surface is wet.

D. Place concrete using the slip form technique.

E. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.

F. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

G. Place concrete to pattern indicated.

3.8 JOINTS

A. Align joints with adjacent surfaces.

B. Place 1/2 inch wide expansion joints at 20 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.
   1. Form joints with joint filler extending from bottom of pavement to within 1/4 inch of finished surface.
   2. Secure to resist movement by wet concrete.

C. Provide scored joints.
   1. As indicated on plan.
   2. At 5 feet intervals.
   3. Between adjacent surfaces.
   4. Scores to be a 2" tooled joint.

D. Provide keyed joints as indicated.

E. Saw cut contraction joints 3/16 inch wide at an optimum time after finishing. Cut 1/3 into depth of slab.

F. Joint Sealants:
   1. Apply joint sealants to expansion joints, and other areas indicated.
   2. See Section 07 92 00 - Joint Sealants for sealant type and application.
   3. In addition to the requirements of 07 92 00, apply sealants prior to first freezing temperatures, and when substrate can be maintained at 40 degrees F, minimum for 48 hours prior to and 72 hours following application.

3.9 FINISHING

A. Area Paving: Light broom, texture perpendicular to pavement direction.

B. Median Barrier: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.

C. Curbs and Gutters: Light broom, texture parallel to pavement direction.

D. Inclined Vehicular Ramps: Broomed perpendicular to slope.

E. Place sealer on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

3.10 TOLERANCES

A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.

B. Maximum Variation From True Position: 1/4 inch.

3.11 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.
   1. Provide free access to concrete operations at project site and cooperate with appointed firm.
   2. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
   3. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

B. Compressive Strength Tests: ASTM C39/C39M; for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.
   1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
   2. Perform one slump test for each set of test cylinders taken.

C. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.12 PROTECTION

A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

B. Do not permit pedestrian or vehicular traffic over pavement for 7 days minimum after finishing.

END OF SECTION

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SECTION 32 91 19
LANDSCAPE GRADING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Topsoil placement.

B. Finish grading.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading.

B. Section 31 23 23 - Fill.

1.3 REFERENCE STANDARDS

A. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017 (Reapproved 2025).

B. ASTM D5268 - Standard Specification for Topsoil Used for Landscaping and Construction Purposes; 2023.

C. ASTM F1647 - Standard Test Method for Organic Matter Content of Athletic Field Rootzone Mixes; 2011 (Reapproved 2018).

1.4 SUBMITTALS

A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

B. Soil Samples: 10 pounds sample of each type of topsoil; submit in air-tight containers to testing laboratory.
   1. Provide test of topsoil at a rate of one sample per 100 cubic yards.
   2. Stockpiled on-site topsoil shall be sampled from multiple locations within the stockpile.

C. Field Quality Control Submittals: Topsoil depth measurements.

1.5 FIELD CONDITIONS

A. Place topsoil during dry weather.

PART 2 PRODUCTS

2.1 MATERIALS

A. Topsoil: Comply with ASTM D5268.

B. Topsoil: Topsoil excavated on-site.
   1. Select.
   2. Free of roots, lumps larger than inches, rocks larger than 1-1/2 inch, subsoil, debris, large weeds and foreign matter.
   3. Acidity Range (pH): 5.5 to 7.5.

4. Comply with ASTM D2487 Group Symbol OH.
5. Disturbed soil shall be minimally mechanically raked to smooth soil and remove stone.

C. Topsoil: Topsoil excavated on-site, tested and amended as required to meet the following:.
1. Select.
2. Handle excavated topsoil in accordance with Section 31 22 00 - Grading.
3. Double screened on site prior to placement.
4. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter, including but not limited to woody material, trash and glass.
5. Acidity range (pH) of 5.5 to 7.5.
6. Complying with ASTM D2487 Group Symbol OH.
7. Disturbed soil shall be minimally mechanically raked to smooth soil and remove stone.

D. Topsoil: Friable loam; imported borrow.
1. Select.
2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
3. Acidity range (pH) of 5.5 to 7.5.
4. Containing a minimum organic matter of 4 percent of total content by volume, when tested in accordance with ASTM F1647, Test Method A.
5. Complying with ASTM D2487 Group Symbol OH.
6. USDA Textural Soil Classification: Percentage of clay, silt, and sand; defined as Sandy Loam.
   a. Assume 1:3 sand to topsoil ratio to meet requirements.
7. Investigate imported soil supply prior to bidding and include necessary amendments.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify grading and intended elevations are as indicated on drawings.

B. Verify absence of standing or ponding water.

3.2 PREPARATION

A. Protect site features to remain, including bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs.

B. Protect trees, plants, lawns, rock outcroppings, and other features to remain.

C. Remove debris, roots, branches, stones, in excess of 1/2 inch in size.

D. Scarify trafficked surface to a minimum depth of 8 inches.

E. Follow State's best practice for decompaction and deep ripping all surfaces impacted by construction.

F. Grade substrate, see Section 31 22 00.

3.3 TOPSOIL PLACEMENT

A. Uniformly distribute and spread topsoil.

B. Place topsoil in areas where seeding, sodding, and planting as indicated on drawings.

C. Place topsoil to the following compacted thicknesses:
1. Areas Indicated Seeded with Grass: 6 inches.
2. Areas Indicated as Sodded: 4 inches.
3. Shrub Beds: 18 inches.
4. Flower Beds: 12 inches.

3.4 FINISH GRADING

A. Maintain profiles and contour of subgrade.

B. Remove roots, weeds, rocks, and foreign material while spreading.

C. Maintain uniform topsoil thickness.

D. Lightly compact placed topsoil.

E. Regrade or add topsoil where settling occurs during lawn establishment.

3.5 TOLERANCES

A. Topsoil Thickness: 1/2 inch plus/minus.

3.6 CLEANING

A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.

B. Remove unused topsoil. Grade stockpile area to prevent standing water.

3.7 PROTECTION

A. Protect from stormwater runoff and subsequent construction operations.

B. Do not permit traffic until established.

C. Provide appropriate stakes, flags, or signage along sidewalk(s) or other areas where foot or vehicle traffic is possible until lawn is established.

END OF SECTION

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SECTION 32 92 19
SEEDING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preparation of subsoil.

B. Placing topsoil.

C. Seeding, mulching and fertilizer.

D. Maintenance.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading.

1.3 DEFINITIONS

A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 SUBMITTALS

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

B. Sample: Submit minimum 10 oz sample of proposed topsoil. Forward sample to approved testing laboratory in sealed containers to prevent contamination.

C. Test Reports: Indicate nitrogen, phosphorus, potash, soluble salt, organic matter, and pH.

D. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.

E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

F. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer .

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.6 QUALIFICATIONS

A. Seed Supplier: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum five years documented experience.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Seed Mixture: General Lawn Areas, Evergreen Professional 80/20 mix by Banfield Baker or approved equal
   1. 40% Diva Kentucky Bluegrass
   2. 40% Guinness Kentucky Bluegrass
   3. 10% Palmer IV Perennial Ryegrass
   4. 10% Double Time Perennial Ryegrass

2.2 SOIL MATERIALS

A. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, weeds and roots; pH value of minimum 5.4 and maximum 7.0.

2.3 ACCESSORIES

A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.

B. Mulching Material: Pelleted, biodegradable, dry recycled paper fiber, free from weeds, formulated to absorb and release water continually during seeding establishment.
   1. Integral tackifier and starter fertilizer.
   2. Manufacturer:
      a. Lebanon Turf; PennMulch: www.lebanonturf.com.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

C. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass.

D. Erosion Fabric: Jute matting, open weave. Provide on all disturbed slopes of 3:1 or greater.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that prepared soil base is ready to receive the work of this Section.

3.2 PREPARATION

A. Prepare subgrade in accordance with Section 31 22 00.

B. Place topsoil in accordance with Section 32 91 19.

3.3 FERTILIZING

A. Apply fertilizer at a rate of soil analysis recommendations.

B. Apply after smooth raking of topsoil and prior to roller compaction.

C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.

D. Mix thoroughly into upper 2 inches of topsoil.

E. Lightly water to aid the dissipation of fertilizer.

3.4 SEEDING

A. Apply seed at a rate of 10 lbs per 1000 sq ft evenly in two intersecting directions. Rake in lightly.

B. Do not seed areas in excess of that which can be mulched on same day.

C. Do not sow immediately following rain, when ground is too dry, or during windy periods.

D. Roll seeded area with roller not exceeding 112 lbs.

E. Immediately following seeding and compacting, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.
   1. Where pelleted mulch is incorporated, apply at manufacturer's recommended rate of coverage.

F. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

G. Following germination, immediately re-seed areas without germinated seeds that are larger than 4 by 4 inches.

3.5 HYDROSEEDING

A. Apply seeded slurry with a hydraulic seeder at a rate of 10 lbs per 1000 sq ft evenly in two intersecting directions.

B. Do not hydroseed area in excess of that which can be mulched on same day.

C. Immediately following seeding, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.

D. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

E. Following germination, immediately re-seed areas without germinated seeds that are larger than 4 by 4 inches.

3.6 PROTECTION

A. Cover seeded slopes where grade is 36 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Provide 12 inch overlap of adjacent rolls. Backfill trench and rake smooth, level with adjacent soil.

C. Secure outside edges and overlaps at 36 inch intervals with stakes.

D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.7 MAINTENANCE

A. See Section 01 70 00 - Execution Requirements, for additional requirements relating to maintenance service.

B. Protect seeded areas with warning signs during maintenance period.

C. Maintain turf in manner required to produce healthy turf, uniform in color and leaf texture, and free from weeds and other undesirable growth.
   1. Grass Density - Lawns: 20 plants per sq ft, minimum.
   2. Bare Spots - Lawns: 2 percent of total area, maximum; 6 inches square, maximum.

3. Keep turf relatively free of thatch, woody plant roots, diseases, nematodes, soil-borne insects, stones larger than 1 inch in diameter, and other materials detrimental to grass growth.
4. Limit broadleaf weeds and patches of foreign grass to maximum of 2 percent of total area.

D. Mowing: During growing season, mow turf to uniform height, preventing scalping, rutting, bruising, and uneven or rough cutting.
1. Prior to mowing, clean debris and leaves from turf surface.
2. Schedule frequency of mowing so no more than one-quarter to one-third of grass leaf length is removed during cutting.
   a. Maximum Grass Height Before Mowing: 4 inches.
   b. Height of turf is measured from soil surface.
3. Make each successive mowing at approximately 45 degrees to previous mowing, if practical.
4. Cool Season Grasses:
   a. Reduce mowing height in fall and spring.
   b. Use rotary-type mowers; mulcher-type mowers may be used.
5. Warm Season Grasses:
   a. Increase mowing height slightly as fall approaches.
   b. Use reel-type mowers; do not use mulcher mowers.
6. Remove grass clippings.

E. Trimming: Immediately after each mowing, neatly trim perimeter of each turf area and around obstructions within turf area; match height and appearance of adjacent turf.
1. Adjacent to Pavements: Cut edges of turf to form distinct, uniform turf edge.
2. Adjacent to Planting Beds and Permanently Mulched Areas: Cut edges of turf to form distinct, uniform turf edge.
3. Around Other Trees and Poles: Where no planting bed or mulched area exists, trimming with string trimmer is acceptable.
4. At Fences: Trim on both sides of fence.
5. Irrigation Heads and Valve Boxes: Trim neatly so grass does not interfere with operation.

F. Reseeding: Comply with requirements of this section.

END OF SECTION

SECTION 33 05 61
CONCRETE MANHOLES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Grade adjustments.

B. Frames and covers.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 31 23 16 - Excavation.

C. Section 31 23 23 - Fill.

1.3 REFERENCE STANDARDS

A. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by affected installers.

B. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.5 SUBMITTALS

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

B. Product Data: Provide manhole covers, component construction, seals , features, configuration, and dimensions.

C. Shop Drawings: Indicate manhole locations, elevations, piping and opening sizes and elevations of penetrations.

D. Manufacturer's Installation Instructions: Indicate special procedures for assembly.

E. Manufacturer's qualification statement.

F. Installer's qualification statement.

G. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

H. Field Quality Control Submittals: Document results of field quality control testing.

I. Project Record Documents:
   1. Record invert elevations of concrete manholes.
   2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.7 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.1 ACCESSORIES

A. Expanding modular seal:
   1. Product:
      a. Garlock; LinkSeal EPDM: www.garlock.com.
      b. Or Engineer Approved Equal.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify items provided by other sections of work are properly sized and located.

B. Verify that built-in items are in proper location, and ready for roughing into Work.

C. Verify excavation for manholes is correct.

3.2 PREPARATION

A. Coordinate placement of inlet and outlet pipe or duct sleeves required by other sections.

B. Do not install structures where site conditions induce loads exceeding structural capacity of structures.

C. Inspect precast concrete structures immediately prior to placement in excavation to verify structures are internally clean and free from damage. Remove and replace damaged units.

3.3 EXCAVATION AND FILL

A. Excavate for manholes and structures in accordance with Section 31 23 16 in location and to depth shown. Provide clearance around sidewalls of structure for construction operations.

B. Hand trim excavation for accurate placement to indicated elevations.

C. When groundwater is encountered, prevent accumulation of water in excavations. Place manholes in dry trench.

D. Place compacted crushed stone at base of excavation minimum six inches thick. See Section 31 23 23 - Fill.

E. Where possibility exists of watertight structure becoming buoyant in flooded excavation, anchor structure to avoid flotation.

F. Backfill with cover fill, tamp in place and compact, then complete backfilling.

G. See Section 31 23 16 for additional excavation requirements.

H. See Section 31 23 23 for additional fill requirements.

3.4 INSTALLATION

A. Establish elevations and pipe inverts for inlets and outlets as indicated in drawings.

B. Grade Adjustments:
1. Lay concrete ring on mortar bed, plumb and level. Top with mortar, plumb and level.
2. Place adjacent materials tight, and smooth following design grades.

C. Frames and Covers:
1. Place frame plumb and level.
2. Mount frame on mortar bed at indicated elevation.
3. Place grate in frame securely.

D. Pipe:
1. Remove knockouts if present to receive piping.
2. Inspect cast-in-place watertight boot, if equipped, for damage prior to pipe installation.
3. Cut pipe to finish flush with interior of manhole, and insert through cast-in-place sealing boot or knockout.
4. Tighten sealing boot in accordance with manufacturers instructions.
5. For knockouts, cut holes, or openings with damaged watertight boots, seal annular space between pipe and manhole with expanding modular epdm seal.
6. Form concrete inverts through manhole and structures as shown on Drawings. See Section 03 30 00 - Cast-in-Place Concrete.

3.5 FIELD QUALITY CONTROL

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

B. Perform field inspection for pipe invert elevations.

C. If inspections indicate work does not meet specified requirements, adjust work and reinspect at no cost to Owner.

END OF SECTION