PROJECT MANUAL
VOLUME ONE
SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT
2022 BOND PROJECT - PHASE 1

160 Van Wyck Road
Blauvelt, New York - 10913
DIVISIONS 00 THROUGH 12

CPL PROJECT NO.: 14457.20
DOCUMENT ISSUE DATE: OCTOBER 18, 2023
NEW YORK STATE EDUCATION DEPARTMENT PROJECT CONTROL NUMBER(S):
William O. Schaefer Elementary: SED#50-03-01-06-0-012-019
Cottage Lane Elementary: SED#50-03-01-06-0-010-022
Tappan Zee High School: SED#50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: SED#50-03-01-06-0-012-020
Cottage Lane Sound & Lockdown: SED#50-03-01-06-0-010-023
Cottage Lane Library Sound & Lockdown: SED#50-03-01-06-8-023-002
WOS Outdoor Classroom: SED#50-03-01-06-7-053-001
CLE Outdoor Classroom: SED#50-03-01-06-7-054-001
SOMS Outdoor Classroom: SED#50-03-01-06-7-056-001
TZHS Outdoor Classroom: SED#50-03-01-06-7-055-001

Registration Expiration Dates:

Lauren Tarsio	09/30/26	Anthony Marchetti	05/31/24
Richard Waite	11/30/23	Dave Hart	02/28/25
Larry Werts	12/31/24	Jennifer Wengender	06/30/24

Certificate # 018330

DESIGN PROFESSIONAL'S CERTIFICATION:
The undersigned certifies that, to the best of his or her knowledge, information and belief, that the "Design conforms to all applicable provisions of the current New York State Uniform Fire Prevention Code, Building Code and Energy Conservation Code, the building standards of the New York State Education Department and that the “Work will involve known or suspected ACBM, and will be done in accordance with Industrial Code Rule #56".

ALTERATION WARNING STATEMENT:
It is a violation of the New York State Education Law and the Commissioner's regulations for any person, unless acting under the direction of a licensed Architect, Engineer or Land Surveyor, to alter an item in any way. If an item bearing the seal of an Architect, Engineer or Land Surveyor is altered, the altering party shall affix to the item, their seal and the notation " ALTERED BY ", followed by their signature and the date of such alteration, and a specific description of the alteration.

ARCHITECT / ENGINEER

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OWNER

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CLE-E900	ELECTRICAL SCHEDULES
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TZHS-E101	FIRST FLOOR ELECTRICAL DEMOLITION PLAN
TZHS-E200	FIRST FLOOR ELECTRICAL NEW WORK PLAN
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WOS-T201	FIRST FLOOR NEW WORK PLAN – AREA B
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CLES-T001	KEY PLAN
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CLES-T102	FIRST FLOOR DEMOLITION PLAN – AREA C
CLES-T103	FIRST FLOOR DEMOLITION PLAN – AREA D
CLES-T104	FIRST FLOOR DEMOLITION PLAN – AREA E
CLES-T105	FIRST FLOOR DEMOLITION PLAN – AREA F
CLES-T200	FIRST FLOOR PLAN NEW WORK – AREA A
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SECTION 001112
ADVERTISEMENT FOR BIDS

THE SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT

Invites bids for GENERAL CONSTRUCTION CONTRACT, PLUMBING CONTRACT, MECHANICAL CONTRACT, ELECTRICAL CONTRACT, and HAZARDOUS MATERIALS ABATEMENT CONTRACT Work for 2022 BOND PROJECT - PHASE 1 located at 160 Van Wyck Road, Blauvelt, New York, 10913.

Separate sealed bids will be received by South Orangetown Central School District at District Offices (attention: Greg Kern, School Business Administrator) 160 Van Wyck Road, Blauvelt, NY 10913, until 4:00 pm local time on November 29, 2023, at which time they will be publicly opened and read aloud. It is the sole responsibility of the bidder to ensure that the bid is received at the designated location prior to the designated time for opening bids.

Complete sets of hard copy Bidding Documents, Drawings and Specifications, may be obtained from REVplans, 28 Church Street, Unit 7, Warwick, NY 10990, Tel 1-877-272-0216, upon depositing the sum of $100.00 for each combined set of Bidding Documents. Checks or Money Orders shall be made payable to; South Orangetown Central School District. Plan deposit is refundable in accordance with the terms in the Instructions to Bidders, to all submitting Bids. Any Bidder requiring documents to be shipped shall make arrangements with the printer and pay for all packaging and shipping costs.

Please note; REVplans (cplteamplanroom.com) is the designated location and means for distributing and obtaining all bid package information. Only those Contract Documents obtained in this manner will enable a prospective bidder to be identified as an official plan holder of record. The Provider takes no responsibility for the completeness of Contract Documents obtained from other sources. Contract Documents obtained from other sources may not be accurate or may not contain addenda that may be issued.

All bid addenda will be transmitted to registered plan holders via email and will be available at www.cplteamplanroom.com. Plan holders who have paid for hard copies of the bid documents will need to make the determination if hard copies of the addenda are required for their use and coordinate directly with the printer for hard copies of addenda to be issued. There will be no charge for registered plan holders to obtain hard copies of the bid addenda. A Bidder, upon 1) making the deposit required for the Bid Documents, 2) submitting a Proposal accompanied by a certified check or other security in accordance with the requirements contained in the plans and specifications and public advertisement for bids, and 3) returning the plans and specifications used by such Bidder in good condition within thirty (30) days following the award of the Contract, or rejection of the Bid, shall have returned to them the full amount of the deposit for one copy of the plans and specifications.

Bidding Documents may be examined on or after **October 18, 2023** at the following locations:

- www.cplteamplanroom.com
- Eastern Contractors Association, Inc., 6 Airline Drive, Albany, NY 12205-1095, 518-869-096

- McGraw Hill Construction (Dodge): 71 Fuller Road, Albany, NY 12205, phone:1-800-393-6343, fax: 518-725-4733, e-mail: Support@construction.com

A Pre-Bid Meeting/walk-through for this Project will be held on **November 10, 2023** at William O. Schaefer Elementary School - 140 Lester Drive, Tappan, NY 10983. Attendance by bidders is strongly recommended, but not required, for submitting a bid. Prospective bidders may visit the sites during business hours by appointment by contacting Dennis Yorke (The Palombo Group) at dyorke@thepalombogroup.com or (845) 600-5427.

The South Orangetown Central School District hereby reserves the right to waive any informalities and reject any or all Bids or to accept the one that in its judgment will be in the best interest of South Orangetown Central School District.

A Bid Bond or Certified Check in the amount of five percent (5%) of Base Bid is required and must accompany proposal. Performance Bond and Labor Material Payment Bond equal to one hundred percent (100%) of Contract Sum are required to be delivered at time Contract is signed with Owner.

Attention of the Bidder is particularly called to the following:

- The Owner's sales tax exemption.
- The requirements as to conditions of employment.
- The minimum wage rates to be paid under the contract.
- The requirements pertaining to certification of Non-Collusion in preparation of proposals submitted for this Project.

No bidder may withdraw their bid within forty-five (45) days after date of bid opening.

In addition, the Bidding Documents for this project contain detailed requirements for the qualification of Bidders as follows:

- Rigid bonding and insurance requirements.
- Financial statements and bank references.
- Lists of lawsuits, arbitrations or other proceedings in which the Bidder has been named as a party.
- A statement of Surety's intent to issue Performance and Payment Bonds.
- A description of other projects of similar size and scope completed by the Bidder.

Bidders will comply with New York State prevailing wage and supplement requirements.

Board of Education

South Orangetown Central School District

State of New York

SECTION 002000
INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.1 SUMMARY

A. Attached is AIA Document A701-2018, Instructions to Bidders.

1. AIA Document A701-2018 defines the conditions affecting award of contract and procedures with which Bidders must comply.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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AIA® Document A701® – 2018

Instructions to Bidders

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

2022 Bond Project – Phase 1
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

William O. Schaefer Elementary: 50-03-01-06-0-012-019
Cottage Lane Elementary: 50-03-01-06-0-010-022
Tappan Zee High School: 50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: 50-03-01-06-0-012-020
Cottage Lane Sound & Lockdown: 50-03-01-06-0-010-023
Cottage Lane Library Sound & Lockdown: 50-03-01-06-8-023-002
WOS Outdoor Classroom: 50-03-01-06-7-053-001
CLE Outdoor Classroom: 50-03-01-06-7-054-001
SOMS Outdoor Classroom: 50-03-01-06-7-056-001
TZHS Outdoor Classroom: 50-03-01-06-7-055-001

CPL Project No. 14457.20

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

BETWEEN the **"Owner"**:
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

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

CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C.
d/b/a CPL
50 Front Street, Suite 202
Newburgh, NY 12550

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as 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 necessary information and 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 and Supplementary (if required) 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, prior to the execution of the Contract, 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

(Paragraphs deleted)

may obtain Bidding Documents as designated in the Advertisement or Invitation to Bid, for the deposit sum and method stated therein.

§ 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 (30) days following the award of the Contract or rejection of the 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. Good condition as used in this

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section means that the Bidding Documents must be returned bound as issued, legible, and containing only the markings necessary for bidding purposes.
§ 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, shall consider federal, state and local Laws and Regulations 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 via email and shall be received by the Architect at least seven working days prior to the date for receipt of Bids, or as follows:
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

Lisa Fasciglione; LJFasciglione@cplteam.com

§ 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, including phone calls, shall not be binding, and Bidders shall not rely upon them.

§ 3.2.4 In the absence of an interpretation, correction or change, should the Drawings disagree in themselves or with the Specifications, the better quality, the costlier or the greater quantity of work or materials shall be estimated upon, and unless otherwise ordered, shall be furnished.
§ 3.2.5 Communications regarding the Bidding Documents shall be directed to Lisa Fasciglione, Telephone 845-522-5796.

§ 3.2.6 EQUIVALENCY
§ 3.2.6.1 In the Specifications, if two or more kinds, types, brands, or manufacturers or materials are named, they shall be regarded as the required standard of quality, and are presumed to be equal. The Contractor may select one of these items or, if the Contractor desires to use any kind, type, brand, manufacturer or material other than those named in the Specification, he shall indicate in writing to the Architect and Owner, and prior to the award of Contract, what kind, type, brand or manufacturer is included in the Base Bid for the specified item. Refer to Specification 012519 Equivalents for Equivalent Certification Form.

§ 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

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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. The procedure for review and approval of Substitutions is set forth in the § 3.4.2 of the General and Supplementary (if required) Conditions of the Contract and in the General Requirements (Division 1 of the Specifications).

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents through the print method stated in the Advertisement or Invitation to Bid, or as follows:
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

§ 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.

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 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.

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

(Paragraph deleted)

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§ 4.1.8 In accordance with the Wicks Reform 2008, Single Prime Contracts for projects under the monetary threshold of $500,000 the bid shall be accompanied by a separate sealed envelope naming each subcontractor for the Plumbing, HVAC and Electrical work, with the amounts paid to each Contractor. This list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs. This list must be open for public inspection.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security: Bid Security of not less than five percent (5%) of the amount of the Bid, in the form of a Bid Bond or a Certified Check made payable to the Owner, or as follows.
(Insert the form and amount of bid security.)

§ 4.2.2 Except as stated under § 4.4.3, the Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid, with the understanding that the Bid Security shall guarantee that the Bidder will not withdraw its Bid for a period of forty-five (45) days after the scheduled closing time for the receipt of Bids, and that if its Bid is accepted, the Bidder will enter into a formal contract with the Owner in accordance with the terms stated in the Bid and will furnish any required performance and payment bonds at the time required. In the event of the withdrawal of said Bid within the forty-five (45) day period or the failure of the successful Bidder to enter into the Contract with the Owner or the failure of the successful Bidder to furnish required performance and payment bonds at the time required, the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty, which represents the damage the Owner incurred as a result of the Bidder's default.
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 Bid Securities shall be returned to all Bidders except the three (3) lowest Bidders within three (3) days after the formal opening of bids. The remaining Bid Securities will be returned within forty-eight (48) hours after the Owner and the successful Bidder have executed the Contract and executed performance and payment bonds have been approved by the Owner. If a Contract has not been executed or performance and payment bonds have not been approved by the Owner within forty-five (45) days after the scheduled closing time for the receipt of bids, then Bid Securities will be returned within three (3) days after the expiration of this forty-five (45) day period unless the Bid Security has been forfeited under § 4.2.2.

§ 4.3 Submission of Bids

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

§ 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

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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.

§ 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 three 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 returned.

§ 4.4.4 Unless a Bid error complies with § 4.4.3, a Bid may not be modified, withdrawn or canceled by the Bidder for a period of forty-five (45) days following the time and date designated for the receipt of Bids, and each Bidder agrees to this requirement in submitting a 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, for Public projects, 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 and does not exceed the funds available. 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, or other document included in the Project Manual, unless such a Statement has been previously required and submitted for this Bid.

§ 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;

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.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.

§ 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 The Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 The cost of bonds 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.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall each be equal to one hundred (100) percent 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 ten (10) days after the Bidder has received notice of the acceptance of its Bid but in no event shall bonds be delivered later than 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 A232-2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Advisor unless otherwise stated below.

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

.2 AIA Document

(Paragraphs deleted)

A232-2019, General Conditions of the Contract for Construction, Construction Manager as Advisor unless otherwise stated below.

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

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(Paragraphs deleted)

.3 Specifications

Section	Title	Date
See Section 000110	Table of Contents	

.4 Drawings

Number	Title	Date
See Section 000115	Drawing List	

.5 Addenda:

Number	Date	Pages

.6 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

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

ARTICLE 9: NEWFORMA REQUIREMENTS

9.1 After notification of selection for the award of the Contract, the Bidder shall be required to use the Newforma Info Exchange for the transfer of Submittals, Shop Drawings and RFI's. There will be **no exceptions** to this requirement. The contractor will be given a Login and Password free of charge.

ARTICLE 10: TAXES

10.1 The Owner is an organization, which is exempt from New York State and Local Sales and Use Taxes. Materials purchased for use in fulfilling this Contract will be exempt from New York Sales Tax. The Owner will provide the Contractor with a completed Form ST-119.1, Exempt Organization Certification. The Contractor shall present a copy of this Form and a completed Form ST-120.1, Contractor Exempt Purchase Certificate, to each supplier. Should sales tax be assessed, the Owner agrees that the Contract Sum shall be increased by the full amount of such assessment.

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Additions and Deletions Report for

AIA® Document A701® – 2018

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.

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PAGE 1

2022 Bond Project – Phase 1
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

William O. Schaefer Elementary: 50-03-01-06-0-012-019
Cottage Lane Elementary: 50-03-01-06-0-010-022
Tappan Zee High School: 50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: 50-03-01-06-0-012-020
Cottage Lane Sound & Lockdown: 50-03-01-06-0-010-023
Cottage Lane Library Sound & Lockdown: 50-03-01-06-8-023-002
WOS Outdoor Classroom: 50-03-01-06-7-053-001
CLE Outdoor Classroom: 50-03-01-06-7-054-001
SOMS Outdoor Classroom: 50-03-01-06-7-056-001
TZHS Outdoor Classroom: 50-03-01-06-7-055-001

CPL Project No. 14457.20

...

BETWEEN the "Owner":
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

...

CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C.
d/b/a CPL
50 Front Street, Suite 202
Newburgh, NY 12550

PAGE 3

§ 1.2 Definitions set forth in the General and Supplementary (if required) 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, prior to the execution of the Contract, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

...

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§ 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.)*~~

may obtain Bidding Documents as designated in the Advertisement or Invitation to Bid, for the deposit sum and method stated therein.
§ 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 of~~ thirty (30) days following the award of the Contract or rejection of the 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. Good condition as used in this section means that the Bidding Documents must be returned bound as issued, legible, and containing only the markings necessary for bidding purposes.
PAGE 4

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

...

in writing via email and shall be received by the Architect at least seven working days prior to the date for receipt of ~~Bids.~~ Bids, or as follows:

...

Lisa Fasciglione; LJFasciglione@cplteam.com

§ 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~~ manner, including phone calls, shall not be binding, and Bidders shall not rely upon them.

§ 3.2.4 In the absence of an interpretation, correction or change, should the Drawings disagree in themselves or with the Specifications, the better quality, the costlier or the greater quantity of work or materials shall be estimated upon, and unless otherwise ordered, shall be furnished.
§ 3.2.5 Communications regarding the Bidding Documents shall be directed to Lisa Fasciglione, Telephone 845-522-5796.

§ 3.2.6 EQUIVALENCY
§ 3.2.6.1 In the Specifications, if two or more kinds, types, brands, or manufacturers or materials are named, they shall be regarded as the required standard of quality, and are presumed to be equal. The Contractor may select one of these items or, if the Contractor desires to use any kind, type, brand, manufacturer or material other than those named in the Specification, he shall indicate in writing to the Architect and Owner, and prior to the award of Contract, what kind, type, brand or manufacturer is included in the Base Bid for the specified item. Refer to Specification 012519 Equivalents for Equivalent Certification Form.
PAGE 5

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents. The procedure for review and approval of Substitutions is set forth in the § 3.4.2 of the General and Supplementary (if required) Conditions of the Contract and in the General Requirements (Division 1 of the Specifications).

...

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding ~~Documents.~~ Documents through the print method stated in the Advertisement or Invitation to Bid, or as follows:

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...

§ 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.~~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.

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

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

§ 4.1.8 In accordance with the Wicks Reform 2008, Single Prime Contracts for projects under the monetary threshold of $500,000 the bid shall be accompanied by a separate sealed envelope naming each subcontractor for the Plumbing, HVAC and Electrical work, with the amounts paid to each Contractor. This list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs. This list must be open for public inspection.

§ 4.2.1 Each Bid shall be accompanied by the following bid security: Bid Security of not less than five percent (5%) of the amount of the Bid, in the form of a Bid Bond or a Certified Check made payable to the Owner, or as follows.
PAGE 6

§ 4.2.2 ~~The~~ Except as stated under § 4.4.3, 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~~ the Bid, with the understanding that the Bid Security shall guarantee that the Bidder will not withdraw its Bid for a period of forty-five (45) days after the scheduled closing time for the receipt of Bids, and that if its Bid is accepted, the Bidder will enter into a formal contract with the Owner in accordance with the terms stated in the Bid and will furnish any required performance and payment bonds at the time required. In the event of the withdrawal of said Bid within the forty-five (45) day period or the failure of the successful Bidder to enter into the Contract with the Owner or the failure of the successful Bidder to furnish required performance and payment bonds at the time required, the bid security shall be forfeited to the Owner as liquidated damages, not ~~as a penalty.~~ as a penalty, which represents the damage the Owner incurred as a result of the Bidder's default.

...

§ 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 days after the opening of Bids, withdraw its Bid and request the return of its bid security.~~Bid Securities shall be returned to all Bidders except the three (3) lowest Bidders within three (3) days after the formal opening of bids. The remaining Bid Securities will be returned within forty-eight (48) hours after the Owner and the successful Bidder have executed the Contract and executed performance and payment bonds have been approved by the Owner. If a Contract has not been executed or performance and payment bonds have not been approved by the Owner within forty-five (45) days after the scheduled closing time for the receipt of bids, then Bid Securities will be returned within three (3) days after the expiration of this forty-five (45) day period unless the Bid Security has been forfeited under § 4.2.2.

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...

§ 4.3.1 A Bidder shall submit its Bid as a paper Bid, or as indicated below:
PAGE 7

§ 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~~ three 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:~~returned.
~~(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)~~
§ 4.4.4 Unless a Bid error complies with § 4.4.3, a Bid may not be modified, withdrawn or canceled by the Bidder for a period of forty-five (45) days following the time and date designated for the receipt of Bids, and each Bidder agrees to this requirement in submitting a Bid.

...

§ 5.3.1 It is the intent of the ~~Owner~~ Owner, for Public projects, 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.~~ Documents and does not exceed the funds available. 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.

...

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, or other document included in the Project Manual, unless such a Statement has been previously required and submitted for this Bid.
PAGE 8

§ 7.1.1 ~~If stipulated in the Bidding Documents, the~~ 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~~ The cost of bonds 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.

...

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall ~~be the amount~~ each be equal to one hundred (100) percent of the Contract Sum.

...

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than ~~three days following~~ ten (10) days after the Bidder has received notice of the acceptance of its Bid but in no event shall bonds be delivered later than 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.

...

.1 AIA Document ~~A101™–2017,~~ A232-2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Advisor unless otherwise stated below.

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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,~~ A232-2019, General Conditions of the Contract for Construction, Construction Manager as Advisor unless otherwise stated below.

...

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

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~~*(Insert the date of the E203-2013.)*~~

~~.5 Drawings~~.3 Specifications

~~Number~~Section	Title	Date
See Section 000110	Table of Contents	

~~.6 Specifications.4~~ Drawings

~~Section~~	~~Title~~	~~Date~~	~~Pages~~

Number	Title	Date
See Section 000115	Drawing List	

~~.7~~ .5 Addenda:

PAGE 10

~~.8~~ .6 Other Exhibits:

...

~~.9~~ .7 Other documents listed below:

...

ARTICLE 9: NEWFORMA REQUIREMENTS

9.1 After notification of selection for the award of the Contract, the Bidder shall be required to use the Newforma Info Exchange for the transfer of Submittals, Shop Drawings and RFI's. There will be **no exceptions** to this requirement. The contractor will be given a Login and Password free of charge.

ARTICLE 10: TAXES

10.1 The Owner is an organization, which is exempt from New York State and Local Sales and Use Taxes. Materials purchased for use in fulfilling this Contract will be exempt from New York Sales Tax. The Owner will provide the Contractor with a completed Form ST-119.1, Exempt Organization Certification. The Contractor shall present a copy of this Form and a completed Form ST-120.1, Contractor Exempt Purchase Certificate, to each supplier. Should sales tax be assessed, the Owner agrees that the Contract Sum shall be increased by the full amount of such assessment.

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Certification of Document's Authenticity

AIA® Document D401™ – 2003

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_____

(Signed)

_____

(Title)

_____

(Dated)

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SECTION 002600
PROCUREMENT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.

B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted after Contract award. See Section 012500 - Substitution Procedures, for conditions under which Substitution Requests will be considered after Contract award.

C. Equivalent Products: For products proposed as an Equivalent to the specified product. Prior to award of contract use the form located in Section 012519 - Equivalents, after award of bid and prior to executing contract.

1.2 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCUREMENT SUBSTITUTIONS

A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.

B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:
   1. Extensive revisions to the Contract Documents are not required.
   2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
   3. The request is fully documented and properly submitted.

1.4 SUBMITTALS

A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing by **PRIME CONTRACT BIDDER ONLY**, in compliance with the following requirements:
   1. Requests for substitution of materials and equipment will be considered if received no later than (10) ten days prior to date of bid opening.
   2. Submittal Format: Submit electronic copies of each written Procurement Substitution Request, using form bound in section 006000 of this project manual.
   3. Submittal Format: Submit Procurement Substitution Request, using format provided on Project Web site.

a. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specifications Sections and drawing numbers.
b. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:
   1) Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
   2) Copies of current, independent third-party test data of salient product or system characteristics.
   3) Samples where applicable or when requested by Architect.
   4) Detailed comparison of significant qualities of the proposed substitute with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
   5) Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
   6) Research reports, where applicable, evidencing compliance with building code in effect for Project, from Building Code of New York State.
   7) Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will become necessary to accommodate the proposed substitute.
c. Provide certification by manufacturer that the substitute proposed is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated.
d. Bidder, in submitting the Procurement Substitution Request, waives the right to additional payment or an extension of Contract Time because of the failure of the substitute to perform as represented in the Procurement Substitution Request.

B. Architect's Action:
   1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.

C. Architect's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

PART 2 PRODUCTS - (NOT USED).

PART 3 EXECUTION – (NOT USED).

END OF SECTION

SECTION 003114
CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.1 CONSTRUCTION SCHEDULE

A. Contractor shall complete work of their Contract per the following Schedule:

B. MILESTONES

1. **April 5, 2024**-
   a. Curbs set for all 2024 scheduled work CLES and WOS.
   b. Nurses Office Abatement complete, temporary floors
2. **June 27, 2024**-
   a. Full Mobilization all Trades
3. **August 27, 2024**-
   a. Substantial Completion Summer 2024 work including WOS Nurse's Suite, All Exterior Classrooms, CLES Fitness Path, Sound & Lockdown
4. **June 30, 2025**-
   a. Remobilization all Trades
5. **August 26, 2025**-
   a. Substantial Completion Summer 2025 work
6. **November 4, 2025**-
   a. Final Completion All work

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 003119
EXISTING CONDITION INFORMATION

PART 1 GENERAL

1.1 EXISTING CONDITION INFORMATION

A. This Document, with its referenced attachments, is part of the Procurement and Contracting Requirements for this Project. They provide Owner's information for Bidders' convenience and are intended to supplement, rather than serve in lieu of, the Bidders' own investigations. It is made available for Bidders' convenience and information and is not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.

B. Existing Drawings the include information on existing conditions including previous construcction at Project site are available for viewing or download. E-mail requests for download link shall be sent to Lisa Fasciglione at LJFasciglione@cplteam.com.

C. Related Requirements:
   1. Section 002000 - Instructions to Bidders: Bidder's responsibilities for examination of Project site and existing conditions.
   2. Section 003126 - Existing Hazardous Material Information: Hazardous materials reports that are made available to bidders.
   3. Section 003132 - Geotechnical Data: Reports and soil-boring data from geotechnical investigations that are made available to bidders.

PART 2 PRODUCTS – (NOT USED).

PART 3 EXECUTION – (NOT USED).

END OF SECTION

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SECTION 003126

EXISTING HAZARDOUS MATERIAL INFORMATION

PART 1 GENERAL

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

A. This Section with its referenced attachments is part of the Procurement and Contracting Requirements for this Project. It provides Owner's information for Bidders' convenience and is intended to supplement, rather than serve in lieu of, Bidders' own investigations. It is made available for Bidders' convenience and information but is not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.

B. An existing asbestos report for Project, prepared by QuES&T, dated October 11, 2023, is appended to this Document.

C. An existing lead report for Project, prepared by QuES&T, dated October 11, 2023, is appended to this Document.

D. Related Requirements:

1. Section 002000 - Instructions to Bidders: Bidder's responsibilities for examination of Project Site and existing conditions.
2. Section 024100 - Demolition: Notification requirements if materials suspected of containing hazardous materials are encountered.

PART 2 PRODUCTS – (NOT USED).

PART 3 EXECUTION – (NOT USED).

END OF SECTION

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QuES&T

Quality Environmental Solutions & Technologies, Inc.

PRE-CONSTRUCTION SURVEY REPORT
FOR
ASBESTOS-CONTAINING MATERIALS (ACM)
LEAD-BASED PAINTS (LBP)

Prepared for:

CLARK PATTERSON LEE
50 FRONT STREET, SUITE 202
NEWBURGH, NY 12550

at

WILLIAM O. SCHAEFER ELEMENTARY SCHOOL,
COTTAGE LANE ELEMENTARY SCHOOL,
&
TAPPAN ZEE HIGH SCHOOL

Original Report Date: April 21, 2023
Revised Report Date: October 11, 2023

QuES&T Project #23-5197

1376 Route 9, Wappingers Falls, NY 12590 Phone (845) 298-6031 Fax (845) 298-6251
NYS MWBD MBE Cert # 49952-2006 NYSUCP DBE Certified NJUCP DBE Certified www.Qualityenv.com

QuES&T

Quality Environmental Solutions & Technologies, Inc.

October 11, 2023

Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

ATTN: Lauren Tarsio

Via E-mail: ltarsio@cplteam.com

Re: Clark Patterson Lee
William O. Schaefer & Cottage Lane Elementary Schools
Pre-Construction Asbestos & Lead
QuES&T Project #23-5197

Dear Ms. Tarsio,

Attached is the Pre-Construction Inspection Report for Asbestos-containing Materials (ACM) & Lead-Based Paints (LBP) identified throughout areas included within the above-referenced location(s) by **Qu**ality **E**nvironmental **S**olutions **& T**echnologies, Inc. **(QuES&T)**. The inspection included visual assessment of the location in question, and representative sampling, as required, in compliance with the requirements of all applicable federal, state, and local regulations.

The attached report summarizes the inspection protocol and inspection results for your review. **QuES&T** believes this report accurately reflects the material condition existing in the functional spaces at the time of our inspection.

Should you wish to discuss this matter further or require additional information concerning this submittal, please contact us at (845) 298-6031. **QuES&T** appreciates the opportunity to assist Clark Patterson Lee in the environmental services area.

Sincerely,

Zachary Timpano
Technical Services
NYS/AHERA Inspector
Cert # AH 17-42304
NYS Licensed Mold Assessor # MA01430
Niton-Certified XRF Technician

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EXECUTIVE SUMMARY

Quality **E**nvironmental **S**olutions & **T**echnologies, Inc. (**QuES&T**) was retained by Clark Patterson Lee to conduct a Pre-Construction Survey for the presence of Asbestos-containing Materials (ACM) & Lead-based Paints (LBP) in support of the Construction Projects at William O. Schaefer Elementary School, Cottage Lane Elementary School, and Tappan Zee High School.

The survey included a visual inspection/assessment for suspect hazardous material(s), as detailed above, which are likely to be affected by planned demolition/renovations/construction activities. Inspection and sampling were limited to areas/materials slated for demolition/renovation/construction.

The survey was conducted by **QuES&T** personnel on February 22nd & February 23rd, 2023. Asbestos & Lead inspections and/or sampling was conducted by NYSDOL Asbestos Inspector(s) Jonathan Mages (Cert. AH# 18-53364), Kevin Soltysiak (Cert. AH# 22-05115), Shannon Talsma (Cert. AH# 16-07559), and Zachary Timpano (Cert. #AH 17-42304). The lead survey was conducted by Niton-Certified XRF Technician Jonathan Mages utilizing X-Ray Fluorescence Technology (XRF).

ASBESTOS

Laboratory analysis and/or existing sampling data indicated the following materials as Asbestos-containing Materials (greater than 1% asbestos) **(Refer to Table I & Appendix A for details and locations)**

William O. Schaefer Elementary School

- 1st Floor, Rooms 15, 57, 59, 61, 62 63, 64, 65, 66, 68, on Metal Sink Basin, Grey – Anti-Sweat Tar
- 1st Floor, Rooms 67, 70, 74, on Metal Sink Basin, Black – Anti-Sweat Tar
- 1st Floor, Rooms 57, 59, 61, 62, 64, 65, 66, 68, Floor, on Slab, Tan/Beige – 9” x 9” Floor Tile & Mastic
- 1st Floor, Room 63 & 70 Floor, on Slab, Green – 9” x 9” Floor Tile & Mastic
- 1st Floor, Room 1, 2, 3, 6, 15, 16, 17, 19, 21, 24, 26, 30, 32, 37, 104, Floor, on Slab, Gray – 9” x 9” Floor Tile & Mastic

Cottage Lane Elementary School

- 1st Floor, Rooms 107, 109, 111, 205, 206, 207, 208, 209, 210, 301, 303, 305, 306, 307, 308, 309, & 310 – ACM Mastic
- 1st Floor, Rooms 105, 106, 107, 108, 109, 110, & 111 Above Suspended Ceiling, on Sheetrock - Residual Glue Dab
- 1st Floor, Room 105, Floor, Under 12” x 12” Floor Tile, Green – 9” x 9” Floor Tile & Mastic
- 1st Floor, Room 105, Floor, White with Black Streaks – 12” x 12” Floor Tile & Mastic
- 1st Floor, Room 106, Floor, Under 12” x 12” Floor Tile, Beige – 9” x 9” Floor Tile & Mastic
- 1st Floor, Room 106, Floor, Gray – 12” x 12” Floor Tile & Mastic
- 1st Floor, Room 106, Floor, Black – 12” x 12” Floor Tile & Mastic
- 1st Floor, Room 110, Floor, on Slab, Black – 9” x 9” Floor Tile & Mastic

Tappan Zee High School

- ***** No Asbestos-Containing Materials (ACM) Detected Within Scope of Work *****

LEAD

Based on review of the data generated by the Niton XLp-300A XRF Spectrum Analyzer, the following surfaces within the scope of work were identified as lead-based as defined by HUD/EPA (equal to or in excess of 1.0 milligram per square centimeter) (**Refer to Table II & Appendix B for details**):

William O. Schaefer Elementary School

- Hallway, Lower Wall, Tan – Decorative Block

Cottage Lane Elementary School

- Hallway, Lower Wall, Green – Decorative Block
- Hallway, Lower Wall, White – Decorative Block

South Orangetown High School

- NO LEAD BASED PAINTS IDENTIFIED IN RELATION TO THE SCOPE OF WORK

It should be noted that several components tested did in fact contain minimal lead-levels below the EPA threshold level of 1.0 mg/sq. cm for classification as Lead-Based Paint (LBP) and are considered lead-containing coatings by the OSHA Regulation, "Lead Exposure in Construction" (29 CFR 1926.62). OSHA does not recognize a minimum limit for lead concentrations in paint for the purposes of disturbance. Monitoring of workers performing demolition/cleaning/disturbance of painted surfaces shall be completed to document personnel occupational exposure. Items containing any amount of lead concentration are considered lead-containing coatings per 29 CFR 1926.62, OSHA Lead Exposure in Construction.

1.0 INTRODUCTION:

Quality **E**nvironmental **S**olutions **& T**echnologies, Inc. **(QuES&T)** performed a Pre-Construction Survey for the presence of Asbestos-containing Materials (ACM) & Lead-based Paint (LBP) in conformance with the requirements of all applicable federal, state, and local regulations. The survey included a visual inspection/assessment, and representative sampling of suspect hazardous materials, as required, throughout accessible interior and exterior locations to be affected by future renovations of William O. Schaefer & Cottage Lane Elementary Schools.

Certified **QuES&T** personnel, Jonathan Mages, Zachary Timpano, Shannon Talsma & Kevin Soltysiak conducted field inspection(s) on February 22nd & February 23rd, 2023. The inspection scope was established based on review of work scope drawings.

QuES&T established functional spaces based either on physical barriers (i.e., walls, doors, etc.) or homogeneity of material. Within each functional space identified, a visual inspection was performed using reasonable care and judgment, to identify and assess location, quantity, friability, and/or condition, as applicable, of all accessible installed building materials observed at the affected portion of the building/structure.

Limited localized demolition of building surfaces was performed, as part of this survey, to access concealed surfaces. No disassembly of installed equipment was conducted as part of this inspection. ACM and/or LBP, concealed within structural components and equipment interiors or that is accessible only through extensive mechanical or structural demolition may not have been identified as part of this survey.

Homogenous material types were established based on appearance, color and texture. The findings presented in this report are based upon reasonably available information and observed site conditions at the time the assessment was performed. The findings and conclusions of this report are not meant to be

indicative of future conditions at the site and does not warrant against conditions that were not evident from visual observations or historical information obtained from others.

2.0 ASBESTOS SURVEY:

2.1 INSPECTION SUMMARY

QuES&T performed a Pre-Construction Survey, in conformance with Title 12 NYCRR Part 56-5.1, for Clark Patterson Lee in support of the South Orangetown CSD Construction Projects at William O. Schaefer & Cottage Lane Elementary Schools. The survey included a visual inspection / assessment for Presumed Asbestos-containing Materials (PACM) and suspect miscellaneous Asbestos-containing Materials (ACM) throughout accessible interior and exterior locations to be affected by future renovations, as detailed above.

Limited localized demolition of building surfaces was performed, as part of this survey, to access concealed surfaces. No disassembly of installed equipment was conducted as part of this inspection. ACM concealed within structural components and equipment interiors or that is accessible only through extensive mechanical or structural demolition may not have been identified as part of this survey. When any construction activity, such as demolition, remodeling, renovation or repair work, reveals PACM or suspect miscellaneous ACM that has not been identified, as part of this survey, all construction activities shall cease in the affected area.

The survey included both visual inspection of accessible spaces and representative sampling of suspect building materials for ACM. Samples collected were analyzed by a laboratory approved under the New York State Department of Health Environmental Laboratory Approval Program (NYSDOH ELAP). Samples were analyzed in the laboratory by Polarized Light Microscopy (PLM), Polarized Light Microscopy-NOB (PLM-NOB) and/or Quantitative Transmission Electron Microscopy (QTEM), as required. Sample collection and laboratory analysis were conducted in compliance with the requirements of Title 12 NYCRR Part 56-5.1, 29 CFR 1926.1101 and standard EPA & OSHA accepted methods. Samples consisting of multiple layers were separated and analyzed independently in the laboratory.

2.2 SAMPLE COLLECTION & ANALYTIAL PROCEDURES

Representative bulk sampling was performed on suspect building materials for laboratory analysis using PLM, PLM-NOB, and/or QTEM. The following is a summary of installed building materials sampled:

- Wall Materials – Plaster, Joint Compound, Sheetrock, Concrete Block, Mortar (various) Ceramic Tile, Grout, Covebase Molding (various), Adhesive (various), Glazed Concrete Block, Brick

- Ceiling Materials – Plaster, Joint Compound, Sheetrock, Ceiling Tile (various), Glue Dab (various)

- Flooring Materials – Ceramic Tile (various), Grout, Mudset/Setting Bed, Concrete Slab, Leveler, Carpet Mastic, Floor Tile (various), Mastic (various)

- Thermal System Insulation Materials (TSI) – Insulation

- Miscellaneous Materials – Roofing Debris, Caulk, Anti-Sweat Tar (various)

Asbestos Survey: Sample Collection & Analytical Procedures (Continued)

Certified **QuES&T** personnel (Appendix C), Jonathan Mages (Cert. AH# 18-53364), Kevin Soltysiak (Cert. AH# 22-05115), Shannon Talsma (Cert. AH# 16-07559), and Zachary Timpano (Cert. #AH 17-42304). performed visual assessments throughout interior and exterior construction areas. A total of two-hundred eighty-one **(281)** samples/layers of installed and accessible suspect building materials were analyzed by a laboratory approved under the NYSDOH ELAP. One-hundred eleven **(111)** samples/layers were analyzed using Polarized Light Microscopy (PLM) for friable materials; one-hundred four **(104)** samples/layers were analyzed using Polarized Light Microscopy (PLM-NOB) for non-friable organically bound materials; and sixty-six **(66)** samples/layers were analyzed by Confirmatory-QTEM following negative-determinations using PLM-NOB protocols.

2.3 IDENTIFIED ASBESTOS-CONTAINING MATERIALS (ACM)

TABLE I: IDENTIFIED ACM
WILLIAM O. SCHAEFER ELEMENTARY SCHOOL,
COTTAGE LANE ELEMENTARY SCHOOL,
& TAPPAN ZEE HIGH SCHOOL
(CONSTRUCTION AREAS)
(Refer to Appendix A for details)

KEY: **ACM** = Materials containing greater than 1% of asbestos;
LF = Linear Feet; **SF** = Square Feet; **PACM** = Presumed Asbestos-containing Materials;
Friable = ACM capable of being released into air, and which can be crumbled, pulverized, powdered, crushed or exposed by hand-pressure.

Location	Material	Approximate Quantity	Friable?	Condition
William O. Schaefer Elementary School				
1st Floor, Rooms 15, 57, 59, 61, 62 63, 64, 65, 66, 68, on Metal Sink Basin, Grey	Anti-Sweat Tar	30 SF	No	Good
1st Floor, Rooms 67, 70, 74, on Metal Sink Basin, Black	Anti-Sweat Tar	9 SF	No	Good
1st Floor, Rooms 57, 59, 61, 64, 65, 66, 68, Floor, on Slab, Tan/Beige	9" x 9" Floor Tile & Mastic	6,190 SF	No	Good
1st Floor, Room 63 & 70 Floor, on Slab, Green	9"x 9" Floor Tile & Mastic	1,771 SF	No	Good
1st Floor, Rooms, 1, 2, 3, 6, 15, 16, 17, 19, 21, 24, 26, 30, 32, 37, 62, 67 Floor, on Slab, Gray	9"x 9" Floor Tile & Mastic	13,914 SF	No	Good
Cottage Lane Elementary School				
1st Floor, Rooms 107, 109, 111, 205, 206, 207, 208, 209, 210, 301, 303, 305, 306, 307, 308, 309, & 310	ACM Mastic	14,868 SF	No	Good
1st Floor, Rooms 105, 106, 107, 108, 109, 110, & 111 Above Suspended Ceiling, on Sheetrock	Glue Dab[1]	5,670 SF	No	Damaged
1st Floor, Room 105 & 108, Floor, on Slab, Green	12"x 12" Floor Tile Mastic and Second Layer 9"x 9" Floor Tile & Mastic	1,620 SF	No	Good

1st Floor, Room 106, Floor, on Slab, Beige	12"x 12" Floor Tile Mastic and Second Layer 9"x 9" Floor Tile & Mastic	810 SF	No	Good
1st Floor, Room 110, Floor, on Slab, Teal w/ Streaks & Black	9"x9" Floor Tile & Mastic	810 SF	No	Good
Tappan Zee High School				
***** No Asbestos-Containing Materials (ACM) Detected Within Scope of Work *****				
NOTES: 1. Residual Glue Dabs in damaged condition were observed above the suspended ceiling on sheetrock in the 100s wing. Debris was noted laying on the ceiling tiles in locations.				

3.0 LEAD SURVEY:

3.1 INSPECTION SUMMARY

QuES&T conducted a Limited Pre-Construction Lead Survey, utilizing X-Ray Fluorescence Technology (XRF), throughout specific interior and exterior areas of William O. Schaefer & Cottage Lane Elementary Schools in support of the Clark Patterson Lee Construction Project at South Orangetown CSD. The survey was limited to specific accessible, representative building components & immovable objects, potentially affected by scheduled renovation/construction activities.

Niton-certified XRF Technician(s) Jonathan Mages of **QuES&T**, collected a total of seventy-five **(75)** samples (including calibrations) on February 22nd & February 23rd, 2023.

3.2 IDENTIFIED LEAD-BASED PAINT(S) (LBP)

Based on review of the data generated by the Niton XLp-300A XRF Spectrum Analyzer, the following surfaces tested were identified as lead-based as defined by HUD/EPA (equal to or in excess of 1.0 milligram per square centimeter):

TABLE II: IDENTIFIED LEAD-BASED PAINT
WILLIAM O. SCHAEFER ELEMENTARY SCHOOL,
COTTAGE LANE ELEMENTARY SCHOOL,
& TAPPAN ZEE HIGH SCHOOL
(CONSTRUCTION AREAS)

Location	LBP Component	Substrate	Color	LBP Condition	Approximate Quantity
William O. Schaefer Elementary School					
Hallway, Throughout	Lower Wall	Decorative Block	Tan	Intact	5,610 SF
Cottage Lane Elementary School					
Gym Hallway	Lower Wall	Decorative Block	Green	Intact	2,400 SF
Hallway 300s Wing	Lower Wall	Decorative Block	White	Intact	2,080 SF
Tappan Zee High School					
NO LEAD BASED PAINTS IDENTIFIED IN RELATION TO THE SCOPE OF WORK					

It should be noted that several components tested did in fact contain minimal lead-levels below the EPA threshold level of 1.0 mg/sq. cm for classification as Lead-Based Paint (LBP) and are considered lead-containing coatings by the OSHA Regulation, "Lead Exposure in Construction" (29 CFR 1926.62). OSHA does not recognize a minimum limit for lead concentrations in paint for the purposes of disturbance. Monitoring of workers performing demolition/cleaning/disturbance of painted surfaces shall be completed to document personnel occupational exposure. Items containing any amount of lead concentration are considered lead-containing coatings per 29 CFR 1926.62, OSHA Lead Exposure in Construction.

4.0 RECOMMENDATIONS:

4.1 ASBESTOS

All construction personnel as well as individuals who have access to locations where asbestos containing materials (ACM) exists should be informed of its presence and the proper work practices in these areas. Conspicuous labeling of all ACM is suggested to ensure personnel is adequately informed. Personnel should be informed not to rest, lean or store material or equipment on or near these surfaces and not to cut, saw, drill, sand or disturb ACM. All removal, disturbance, and repair of ACM should be performed in compliance with Title 12 NYCRR Part 56 by persons properly trained to handle ACM. Facility custodial and maintenance personnel should receive training commensurate with their work activities; as defined in 29 CFR 1910.1001.

As specified in Title 12 NYCRR Part 56-5.1 (h) and (i), "If the building/structure asbestos survey finds that the portion of the building/structure to be demolished, renovated, remodeled, or have repair work contains ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material, which is impacted by the work, the owner or the owner's agent shall conduct, or cause to have conducted, asbestos removal performed by a licensed asbestos abatement contractor in conformance with all standards set forth in this Part. All ACM, PACM, suspect miscellaneous ACM assumed to be ACM, or asbestos material impacted by the demolition, renovation, remodeling or repair project shall be removed as per this Part, prior to access or disturbance by other uncertified trades or personnel. No demolition, renovation, remodeling or repair work shall be commenced by any owner or the owner's agent prior to the completion of the asbestos abatement in accordance with the notification requirements of this Part…All building/structure owners and asbestos abatement contractors on a demolition, renovation, remodeling, or repair project, which includes work covered by this part, shall inform all trades on the work site about PACM, ACM, asbestos material and suspect miscellaneous ACM…Bids may be advertised and contracts awarded for demolition, remodeling, renovation, or repair work, but no work on the current intermediate portion of the project shall commence on the demolition, renovation, remodeling or repair work by any owner or agent prior to completion of all necessary asbestos abatement work for the current intermediate portion of the entire project, in conformance with all standards set forth in this Part."

Prior to conducting demolition or construction work at the building, all ACM affected/impacted by such activities shall be removed utilizing a licensed asbestos abatement contractor and NYSDOL/EPA/NYC certified personnel prior to construction/demolition activities. All work conducted should be in accordance with all legal requirements, including but not limited to U.S. Environmental Protection Agency (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], New York State Industrial Code Rule 56 Asbestos Regulations (ICR 56) and Chapter 1 of Title 15 of the Rules of the City of New York Regulations, as applicable. Advance notification of the asbestos project to the USEPA, NYSDOL, and NYCDEP may be required.

All suspect building materials not sampled during this survey should be considered ACM until these materials are sampled and analyzed for ACM in the laboratory. Concealed ACM: In addition to the

ACMs identified at the site, there is a possibility that concealed ACM may exist at the subject facility. As such, if any concealed suspect ACM is encountered during future construction related activities, the work should immediately stop. Prior to resuming the work, the suspect ACM should either be 1) Sampled by an appropriately-certified asbestos professional and submitted to an Approved NYSDOH ELAP laboratory for asbestos analysis or 2) Presumed to be ACM (PACM) and removed by a licensed asbestos abatement contractor for disposal in accordance with all applicable regulations.

4.2 LEAD

In addition to any identified Lead-based Paints (LBP), several components tested did in fact contain minimal lead-levels below the EPA threshold level of 1.0 mg/sq. cm for classification as LBP and are considered lead-containing coatings by the OSHA Regulation, "Lead Exposure in Construction" (29 CFR 1926.62). OSHA does not recognize a minimum limit for lead concentrations in paint for the purposes of disturbance. Monitoring of workers performing demolition/cleaning/disturbance of painted surfaces shall be completed to document personnel occupational exposure. Items containing any amount of lead concentration are considered lead-containing coatings per 29 CFR 1926.62, OSHA Lead Exposure in Construction.

Activities involving the disturbance of LBP in homes, child-occupied facilities, and/or pre-schools built before 1978 must follow the requirements outlined by EPA regulations (40 CFR 745).

In areas where demolition and/or renovations are to occur and lead is present, the demolition debris waste stream should be further analyzed during segregation for compliance with EPA regulations to ensure proper disposal. TCLP testing can be performed prior to waste segregation, but results may not be indicative of the actual waste streams produced during demolition.

5.0 DISCLAIMERS

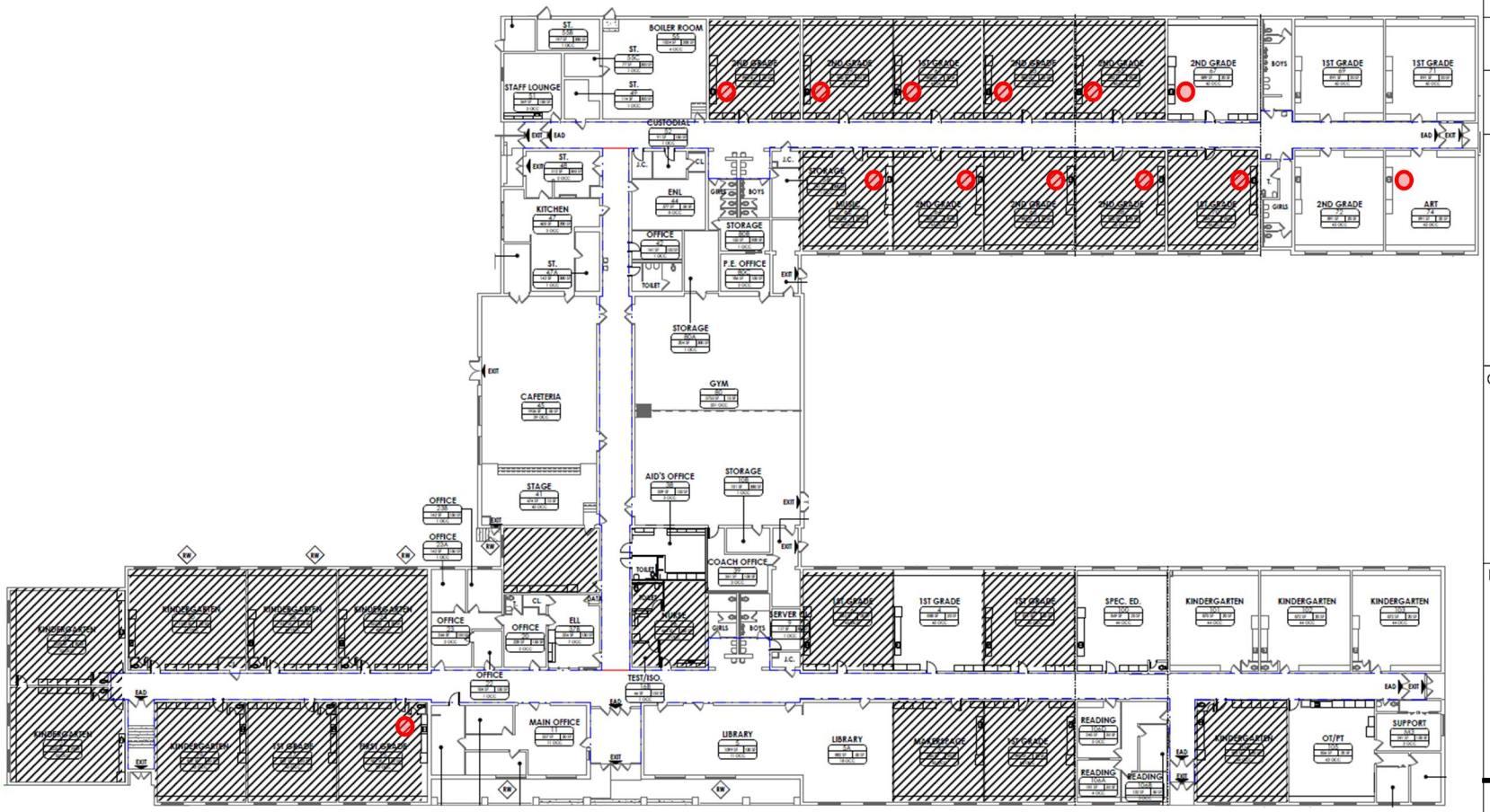
The findings presented in this report are based upon reasonably available information and observed site conditions at the time the assessment was performed. Conditions may have changed since that time and the findings and conclusions of this report are not meant to be indicative of future conditions at the Site. This report does not warrant against conditions that were not evident from visual observations or historical information obtained, or conditions that could only be determined by physical sampling or other intrusive investigation techniques that are outside the proposed scope of work.

It should be noted that the information contained within this report is based solely upon site observations and the results of laboratory analysis for samples collected by **QuES&T.** These observations and results are time dependent, subject to changing site conditions and revisions to Federal, State and Local regulations. **QuES&T** warrants that these findings have been promulgated after being prepared in general accordance with generally accepted practices in the abatement industries. **QuES&T** also recognizes that inspection laboratory data is not usually sufficient to make all abatement and management decisions.

Due to the potential for concealed Asbestos-containing Materials (ACM) or other regulated materials, this report should not be construed to represent all ACM or regulated materials within the site(s). All quantities of ACM or other regulated materials identified, and all dimensions listed within this report are approximate and should be verified On-site.

This inspection report is not intended to be used as the sole basis for soliciting pricing for regulated materials abatement. An abatement plan, specification, drawing and/or Variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project. The Linear and/or Square Footages (LF / SF) listed within this Report are only approximates. Abatement Contractor(s) are required to visit the building(s) in order to take actual field measurements within each listed location.

Appendix A:
ACM LOCATION DRAWINGS & PICTURES



ACM LOCATION KEY (Refer to Report for Details)	
	ACM Floor Tile & Mastic - Tan, Green, Gray
O	ACM Anti-Sweat Tar - Black & Gray

N

Drawing Not to Scale

This Drawing is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project.

Date: 5/11/2023	**Version #** 1

Issued For:
Asbestos Survey

QuES&T Project # :
23-5197

Project Manager: T. McAfee	**Prepared By:** ZT

QuES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
Phone: (845) 298- 6031
Fax: (845) 298-6251

CLIENT

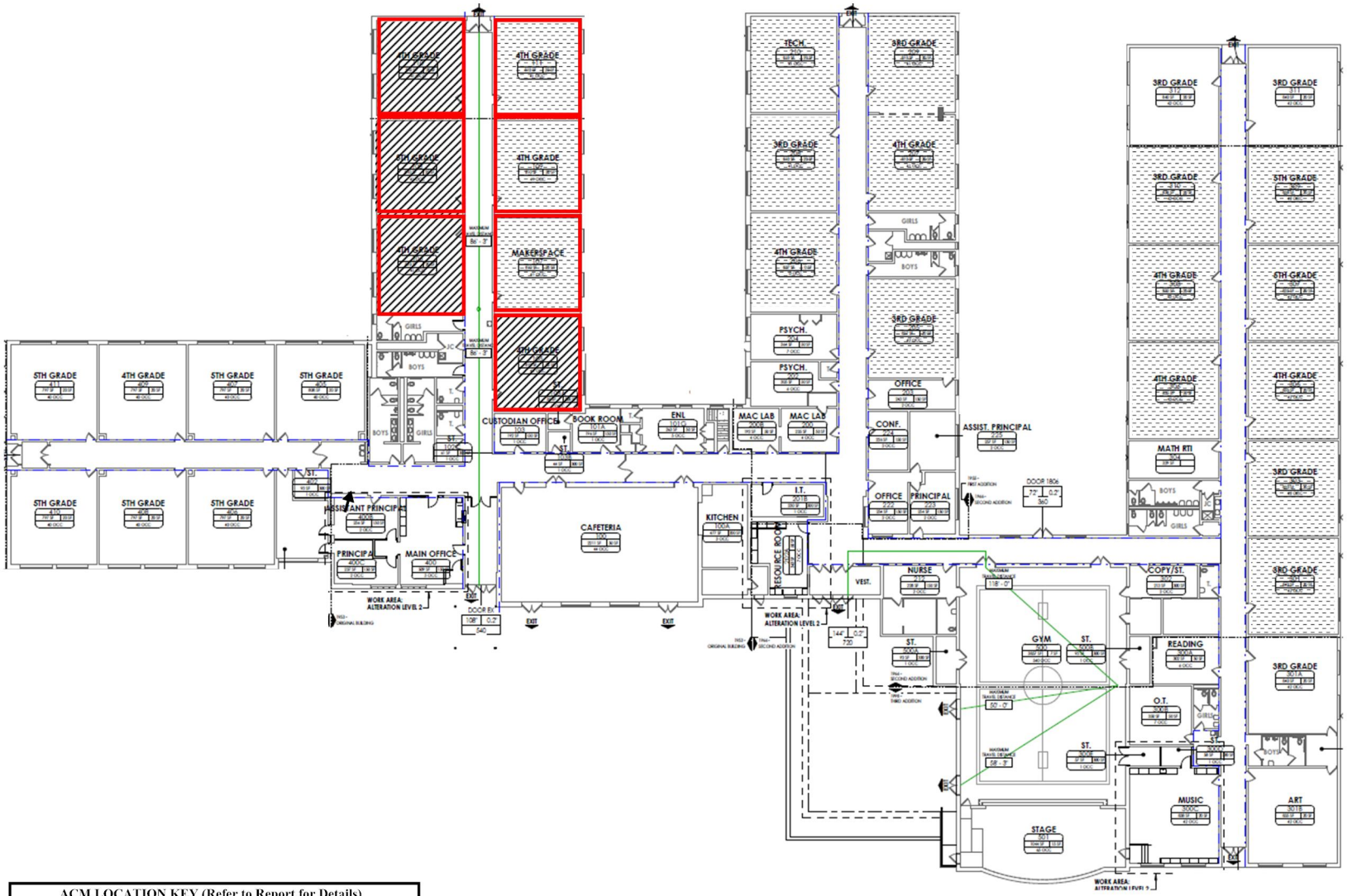
Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

PROJECT LOCATION

South Orangetown Central School District
160 Van Wyck Road,
Blauvelt , NY 10913

William O. Schaefer Interior ACM Locations

ASB-01



ACM LOCATION KEY (Refer to Report for Details)	
	ACM Floor Tile & Mastic
	ACM Mastic
	ACM Residual Glue Dab Above Suspended Ceiling

Drawing Not to Scale

This Drawing is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project.

Date:	Version #
4/20/2023	1

Issued For:
Asbestos Survey

QuES&T Project # :
23-5197

Project Manager:	Prepared By:
T. McAfee	ZT

QuES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
Phone: (845) 298- 6031
Fax: (845) 298-6251

CLIENT

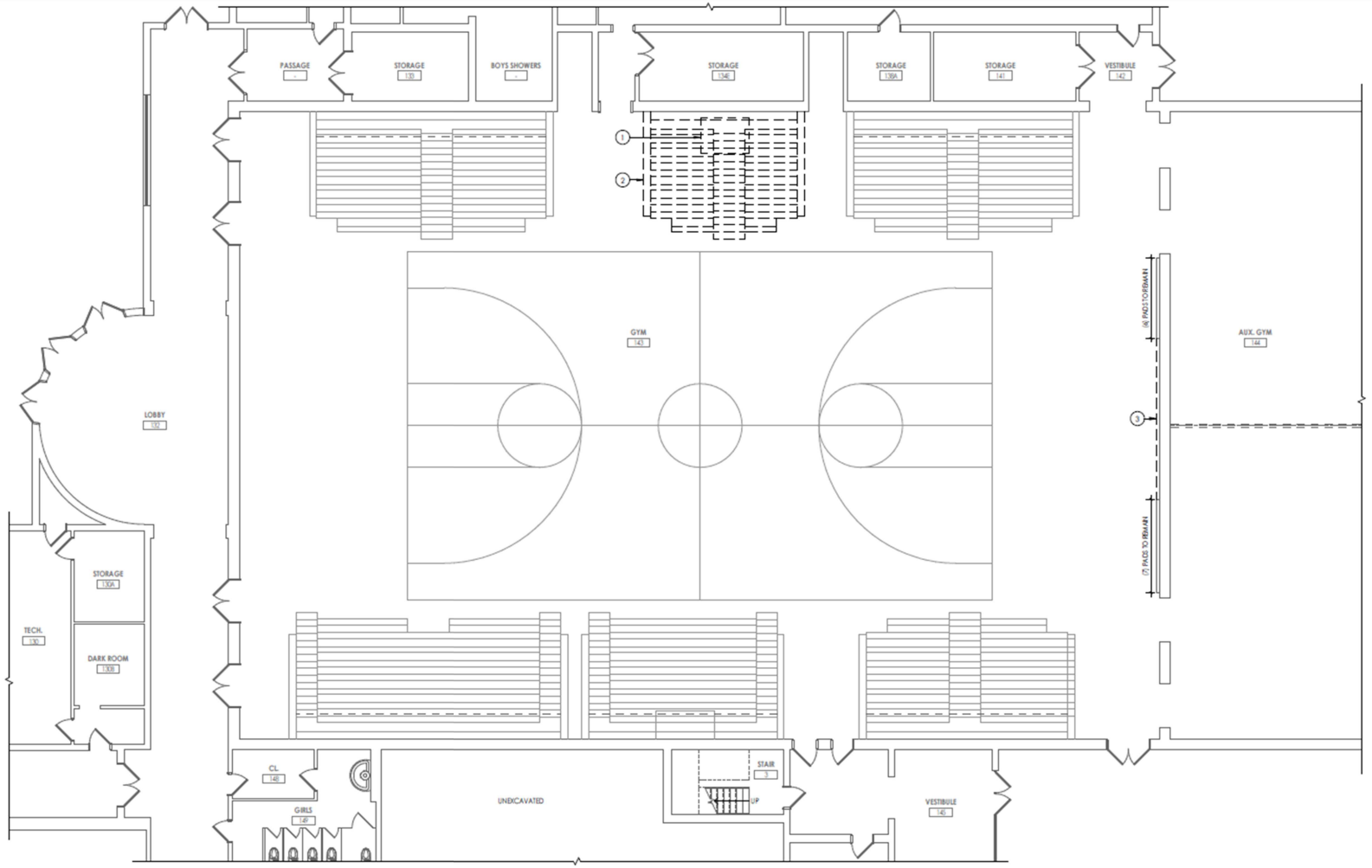
Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

PROJECT LOCATION

South Orangetown Central School District
160 Van Wyck Road,
Blauvelt , NY 10913

Cottage Lane ES Interior ACM Locations

ASB-01



1 DEMOLITION FLOOR PLAN
A100 1/8" = 1'-0"

No Asbestos-containing Materials (ACM) identified uponPLM & QTEM/PLM analysis

N

Drawing Not to Scale

This Drawing is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project.

Date: 3/23/2023	Version # 1
Issued For: Asbestos Survey	
QuES&T Project #: 23-5197	
Project Manager: T. McAfee	Prepared By: ZT

QuES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
Phone: (845) 298- 6031
Fax: (845) 298-6251

CLIENT

Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

PROJECT LOCATION

South Orangetown Central School District
160 Van Wyck Road,
Blauvelt, NY 10913

Tappan Zee High School
Interior
ACM Locations

ASB-01

Photo 1.0 – Example of Beige/Tan floor tile and associated black mastic in William O. Schaefer.

Photo 2.0 – Example of Black Anti-Sweat Tar in William O. Schaefer.

Photo 3.0 – Example of Green 9” x 9” floor tile in William O. Schaefer

Photo 4.0 – Example of Grey 9” x 9” floor tile in Room 26 at William O. Schaefer.

Photo 5.0 – Example of Grey Anti-Sweat Tar in William O. Schaefer.

Photo 6.0 – Example of White with teal and red streaks 9” x 9” floor tile and black 9” x 9” floor tile in Cottage Lane ES.

Photo 7.0 – Example of green 9” x 9” floor tile in Cottage Lane ES.

QuES&T
Quality Environmental Solutions & Technologies, Inc.

Appendix B:
ASBESTOS SAMPLE RESULTS & SAMPLE LOCATIONS

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-01	5197-CLES-01	5197-CLES-02	5197-CLES-02
Layer Number		1	2	1	2
Lab ID Number		2898395	2898395	2898396	2898396
Sample Location		1st Floor, 300's Hallway, By Main Entry, Above Suspended Ceiling, On CMU, Wall	1st Floor, 300's Hallway, By Main Entry, Above Suspended Ceiling, On CMU, Wall	1st Floor, 300's Hallway, Above Suspended Ceiling, On CMU, Wall	1st Floor, 300's Hallway, Above Suspended Ceiling, On CMU, Wall
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White/Green	Brown/Gray	White/Green	Brown/Gray
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	5.0	35.0	5.0	30.0
	% Carbonates	50.0	20.0	45.0	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	45.0	50.0	50.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
These Results Can Not Be Used To Claim That NOB Items Tested Are Non-Asbestos Containing. Overall Lab Accuracy ± 17%. Samples received in acceptable condition unless otherwise noted.
AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-03	5197-CLES-03	5197-CLES-04	5197-CLES-04
Layer Number		1	2	1	2
Lab ID Number		2898397	2898397	2898398	2898398
Sample Location		1st Floor, Room 305, Wall, On Metal Lath	1st Floor, Room 305, Wall, On Metal Lath	1st Floor, Room 308, Wall, On CMU	1st Floor, Room 308, Wall, On CMU
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White/Green	Brown/Gray	White	Gray/Brown
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	10.0	30.0	5.0	30.0
	% Carbonates	45.0	20.0	45.0	25.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	50.0	50.0	45.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-05	5197-CLES-05	5197-CLES-06	5197-CLES-06
Layer Number		1	2	1	2
Lab ID Number		2898399	2898399	2898400	2898400
Sample Location		1st Floor, Room 309, Wall, On CMU	1st Floor, Room 309, Wall, On CMU	1st Floor, 300's Gender Neutral Bathroom, Ceiling, On Metal Lath	1st Floor, 300's Gender Neutral Bathroom, Ceiling, On Metal Lath
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White	Brown/Gray	White	Gray/Brown
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	10.0	30.0	10.0	35.0
	% Carbonates	40.0	20.0	45.0	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	50.0	50.0	45.0	45.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-07	5197-CLES-07	5197-CLES-08	5197-CLES-08
Layer Number		1	2	1	2
Lab ID Number		2898401	2898401	2898402	2898402
Sample Location		1st Floor, 300's Girl's Bathroom, Ceiling, On Metal Lath	1st Floor, 300's Girl's Bathroom, Ceiling, On Metal Lath	1st Floor, 300's Boy's Bathroom, Ceiling, On Metal Lath	1st Floor, 300's Boy's Bathroom, Ceiling, On Metal Lath
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	Yes	No	No
	Fibrous	No	No	No	Yes
	Color	White	Gray/Brown	White	Gray/Brown
Sample Treatment		Homogenized	None	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	10.0	30.0	5.0	30.0
	% Carbonates	45.0	25.0	50.0	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	45.0	45.0	50.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-09	5197-CLES-09	5197-CLES-10	5197-CLES-11
Layer Number		1	2		
Lab ID Number		2898403	2898403	2898404	2898405
Sample Location		1st Floor, 300's Boy's Bathroom, Ceiling, On Metal Lath	1st Floor, 300's Boy's Bathroom, Ceiling, On Metal Lath	1st Floor, Room 107, Perimeter Wall, On Sheetrock	1st Floor, Room 108, Wall, On Sheetrock
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Joint Compound	Joint Compound
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White	Brown/Gray	White/Gray	White
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	10.0	30.0	25.0	30.0
	% Carbonates	45.0	25.0	30.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	45.0	45.0	40.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-12	5197-CLES-13	5197-CLES-14	5197-CLES-15
Layer Number					
Lab ID Number		2898406	2898407	2898408	2898409
Sample Location		1st Floor, Room 205, Perimeter Wall, On Sheetrock	1st Floor, Room 303, Perimeter Wall, On Sheetrock	1st Floor, Room 310, Perimeter Wall, On Sheetrock	1st Floor, 100's Wing Girl's Bathroom, On Sheetrock Ceiling
Sample Description		Joint Compound	Joint Compound	Joint Compound	Joint Compound
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	Yes	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White	White	White/Gray	White
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	30.0	25.0	30.0
	% Carbonates	35.0	30.0	30.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	35.0	40.0	45.0	40.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-16	5197-CLES-17	5197-CLES-18	5197-CLES-19
Layer Number					
Lab ID Number		2898410	2898411	2898412	2898413
Sample Location		1st Floor, 100's Wing Boy's Bathroom, On Sheetrock Ceiling	1st Floor, Boy's Bathroom by 400, On Sheetrock Ceiling	1st Floor, Boy's Bathroom by 401, On Sheetrock Ceiling	1st Floor, 100's Wing Boy's Bathroom, Ceiling
Sample Description		Joint Compound	Joint Compound	Joint Compound	Sheetrock
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	Yes	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	No	No	No	Yes
	Color	White	White	White	Gray
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	5.0
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	30.0	25.0	20.0
	% Carbonates	35.0	30.0	30.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	35.0	40.0	45.0	45.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-20	5197-CLES-21	5197-CLES-21	5197-CLES-22
Layer Number			1	2	1
Lab ID Number		2898414	2898415	2898415	2898416
Sample Location		1st Floor, Room 102A, Perimeter Wall	1st Floor, Room 102A, Wall	1st Floor, Room 102A, Wall	1st Floor, Room 304, Wall
Sample Description		Sheetrock	Block & Mortar (Block Layer)	Block & Mortar (Mortar Layer)	Block & Mortar (Block Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	Yes	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	Yes	No	No	No
	Color	Gray/Brown/White	Brown/Gray/White	Gray/White	Gray/White
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	5.0	ND	ND	ND
	% Cellulose	15.0	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	20.0	20.0	35.0	25.0
	% Carbonates	30.0	30.0	25.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	30.0	50.0	40.0	45.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
These Results Can Not Be Used To Claim That NOB Items Tested Are Non-Asbestos Containing. Overall Lab Accuracy ± 17%. Samples received in acceptable condition unless otherwise noted.
AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-22	5197-CLES-23	5197-CLES-23	5197-CLES-23
Layer Number		2	1	2	3
Lab ID Number		2898416	2898417	2898417	2898417
Sample Location		1st Floor, Room 304, Wall	1st Floor, 100's Wing Men's Bathroom, On CMU Wall	1st Floor, 100's Wing Men's Bathroom, On CMU Wall	1st Floor, 100's Wing Men's Bathroom, On CMU Wall
Sample Description		Block & Mortar (Mortar Layer)	Ceramic Wall Tile, Grout, Mortar (Tile Layer)	Ceramic Wall Tile, Grout, Mortar (Grout Layer)	Ceramic Wall Tile, Grout, Mortar (Mortar Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	Yes	No	No
	Homogenous	Yes	No	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray/White	White	White	Gray
Sample Treatment		None	Homogenized	None	None
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	35.0	25.0	15.0	25.0
	% Carbonates	20.0	20.0	35.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	55.0	50.0	45.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-24	5197-CLES-24	5197-CLES-24	5197-CLES-47
Layer Number		1	2	3	
Lab ID Number		2898418	2898418	2898418	2898419
Sample Location		1st Floor, 100's Wing Women's Bathroom, On CMU Wall	1st Floor, 100's Wing Women's Bathroom, On CMU Wall	1st Floor, 100's Wing Women's Bathroom, On CMU Wall	1st Floor, Room 102A, Above Suspended Ceiling
Sample Description		Ceramic Wall Tile, Grout, Mortar (Tile Layer)	Ceramic Wall Tile, Grout, Mortar (Grout Layer)	Ceramic Wall Tile, Grout, Mortar (Mortar Layer)	Insulation
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	No	Yes
	Homogenous	No	Yes	Yes	No
	Fibrous	No	No	No	Yes
	Color	White	White	Gray	Yellow/Brown/ Black
Sample Treatment		Homogenized	None	None	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	45.0
	% Cellulose	ND	ND	ND	15.0
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	25.0	10.0	25.0	10.0
	% Carbonates	20.0	35.0	20.0	ND
	% Other	ND	ND	ND	ND
	% Unidentified	55.0	55.0	55.0	30.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-48	5197-CLES-49	5197-CLES-52	5197-CLES-52
Layer Number				1	2
Lab ID Number		2898420	2898421	2898422	2898422
Sample Location		1st Floor, Room 102A, Above Suspended Ceiling	1st Floor, Room 102A, Above Suspended Ceiling	1st Floor, 100's Wing Boy's Bathroom, Floor, On Slab	1st Floor, 100's Wing Boy's Bathroom, Floor, On Slab
Sample Description		Insulation	Insulation	Ceramic Floor Tile, Grout, Mudset (Tile Layer)	Ceramic Floor Tile, Grout, Mudset (Grout Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	Yes	No	No
	Homogenous	No	No	No	Yes
	Fibrous	Yes	Yes	No	No
	Color	Yellow/Brown/ Black	Yellow/Brown/ Black	Brown/Black/White	Green
Sample Treatment		Homogenized	Homogenized	Homogenized	None
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	40.0	40.0	ND	ND
	% Cellulose	25.0	20.0	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	5.0	10.0	45.0	30.0
	% Carbonates	ND	ND	ND	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	30.0	30.0	55.0	50.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-52	5197-CLES-53	5197-CLES-53	5197-CLES-53
Layer Number		3	1	2	3
Lab ID Number		2898422	2898423	2898423	2898423
Sample Location		1st Floor, 100's Wing Boy's Bathroom, Floor, On Slab	1st Floor, 100's Wing Girl's Bathroom, Floor, On Slab	1st Floor, 100's Wing Girl's Bathroom, Floor, On Slab	1st Floor, 100's Wing Girl's Bathroom, Floor, On Slab
Sample Description		Ceramic Floor Tile, Grout, Mudset (Mudset Layer)	Ceramic Floor Tile, Grout, Mudset (Tile Layer)	Ceramic Floor Tile, Grout, Mudset (Grout Layer)	Ceramic Floor Tile, Grout, Mudset (Mudset Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	No
	Homogenous	Yes	No	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	Brown/Black/White	Green	Gray
Sample Treatment		None	Homogenized	None	None
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	35.0	40.0	30.0	35.0
	% Carbonates	25.0	ND	25.0	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	60.0	45.0	45.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/01/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-54	5197-CLES-55	5197-CLES-64	5197-CLES-65
Layer Number					
Lab ID Number		2898424	2898425	2898426	2898427
Sample Location		1st Floor, Room 102A, Floor, Under 12" x 12" Floor Tile	1st Floor, Room 110, Floor, Under 9" x 9" Floor Tile	1st Floor, Room 109, Floor, Under 12" x 12" Beige Floor Tile, On Slab	1st Floor, Room 209, Floor, Under 12" x 12" Blue Floor Tile, On Slab
Sample Description		Concrete Slab	Concrete Slab	Leveler	Leveler
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	Gray/Brown	Gray/Brown	Gray/Brown	Gray/Brown
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	30.0	10.0	10.0
	% Carbonates	25.0	30.0	30.0	35.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	40.0	60.0	55.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-25	5197-CLES-25	5197-CLES-26	5197-CLES-26
Layer Number		1	2	1	2
Lab ID Number		2898609	2898609	2898610	2898610
Sample Location		1st Floor, Room 309, Wall, On Sheetrock, Brown, 4 inch	1st Floor, Room 309, Wall, On Sheetrock, Brown, 4 inch	1st Floor, Room 308, Wall, On Sheetrock, Brown, 4 inch	1st Floor, Room 308, Wall, On Sheetrock, Brown, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Brown	Tan	Brown	Tan
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	41.6	45.5	43.4	45.7
	% Carbonates	8.7	8.2	0.2	22.3
	% Other Inorganic	49.7	46.3	56.4	32.0

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This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-27	5197-CLES-27	5197-CLES-28	5197-CLES-28
Layer Number		1	2	1	2
Lab ID Number		2898611	2898611	2898612	2898612
Sample Location		1st Floor, Room 102 B, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 102 B, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 102 A, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 102 A, On Sheetrock Wall, Beige, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Beige	White	Beige	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	54.9	20.0	63.8	20.2
	% Carbonates	44.5	79.4	35.3	78.9
	% Other Inorganic	0.6	0.6	0.9	0.9

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-29	5197-CLES-29	5197-CLES-30	5197-CLES-30
Layer Number		1	2	1	2
Lab ID Number		2898613	2898613	2898614	2898614
Sample Location		1st Floor, Room 301 B, On Sheetrock Wall, Light Gray, 4 inch	1st Floor, Room 301 B, On Sheetrock Wall, Light Gray, 4 inch	1st Floor, Room 311, On Sheetrock Wall, Light Gray, 4 inch	1st Floor, Room 311, On Sheetrock Wall, Light Gray, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	Tan	Gray	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND Inconclusive	ND	ND Inconclusive
Other Materials Present	% Organic	56.6	50.3	59.6	49.8
	% Carbonates	43.3	41.7	39.4	34.8
	% Other Inorganic	0.1	8.0	1.0	15.4

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-31	5197-CLES-31	5197-CLES-32	5197-CLES-32
Layer Number		1	2	1	2
Lab ID Number		2898615	2898615	2898616	2898616
Sample Location		1st Floor, Room 107, On CMU Wall, Dark Gray, 4 inch	1st Floor, Room 107, On CMU Wall, Dark Gray, 4 inch	1st Floor, Room 304, On CMU Wall, Dark Gray, 4 inch	1st Floor, Room 304, On CMU Wall, Dark Gray, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer))
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	Tan/Brown	Gray	White/Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND Inconclusive	ND	ND Inconclusive
Other Materials Present	% Organic	56.7	41.4	56.2	39.6
	% Carbonates	42.3	49.5	43.2	29.0
	% Other Inorganic	1.0	9.1	0.6	31.4

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-33	5197-CLES-33	5197-CLES-34	5197-CLES-34
Layer Number		1	2	1	2
Lab ID Number		2898617	2898617	2898618	2898618
Sample Location		1st Floor, Room 202 A, On Plaster Wall, Black, 4 inch	1st Floor, Room 202 A, On Plaster Wall, Black, 4 inch	1st Floor, Storage Room Next to 202 A, On Sheetrock Wall, Black, 4 inch	1st Floor, Storage Room Next to 202 A, On Sheetrock Wall, Black, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	White	Black	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND Inconclusive	ND	ND Inconclusive
Other Materials Present	% Organic	40.6	50.7	41.0	48.2
	% Carbonates	58.8	36.6	58.3	38.5
	% Other Inorganic	0.6	12.7	0.7	13.3

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-35	5197-CLES-36	5197-CLES-37	5197-CLES-38
Layer Number					
Lab ID Number		2898619	2898620	2898621	2898622
Sample Location		1st Floor, Room 102 A, Suspended Ceiling, 2' x 4' Dotted	1st Floor, Room 102 A, Suspended Ceiling, 2' x 4' Dotted	1st Floor, Room 308, Ceiling, Above Suspended Ceiling, Splined 1' x 1'	1st Floor, Room 307, Ceiling, Above Suspended Ceiling, Splined 1' x 1'
Sample Description		Ceiling Tile	Ceiling Tile	Ceiling Tile	Ceiling Tile
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	Yes	Yes	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	Yes	Yes	Yes	Yes
	Color	White/Yellow	White/Yellow	Gray/White	Gray/White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	36.2	38.0	13.4	16.2
	% Carbonates	39.2	24.7	50.8	54.9
	% Other Inorganic	24.6	37.3	35.8	28.9

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Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-39	5197-CLES-40	5197-CLES-41	5197-CLES-42
Layer Number					
Lab ID Number		2898623	2898624	2898625	2898626
Sample Location		1st Floor, Room 308, Suspended Ceiling, 2' x 2'	1st Floor, Room 307, Suspended Ceiling, 2' x 2'	1st Floor, Room 106, Above Suspended Ceiling, On Sheetrock, 1' x 1' Glued	1st Floor, Room 108, Above Suspended Ceiling, On Sheetrock, 1' x 1' Glued
Sample Description		Ceiling Tile	Ceiling Tile	Ceiling Tile	Ceiling Tile
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	Yes	Yes	No	Yes
	Homogenous	No	No	Yes	No
	Fibrous	Yes	Yes	Yes	Yes
	Color	Gray/White	Gray/White	Tan	White/Tan
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND	ND Inconclusive
Other Materials Present	% Organic	22.2	23.6	99.8	91.1
	% Carbonates	45.4	44.4	0.1	2.3
	% Other Inorganic	32.4	32.0	0.1	6.6

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Eastern Analytical Services, Inc.

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Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-43	5197-CLES-44	5197-CLES-45	5197-CLES-46
Layer Number					
Lab ID Number		2898627	2898628	2898629	2898630
Sample Location		1st Floor, Room 106, Above Suspended Ceiling, On Sheetrock, Residual	1st Floor, Room 105, Above Suspended Ceiling, On Sheetrock, Residual	1st Floor, Room 105, Above Suspended Ceiling, On 2' x 4' Ceiling Tile	1st Floor, Room 105, Above Suspended Ceiling, On 2' x 4' Ceiling Tile
Sample Description		Glue Dab	Glue Dab	Roofing Debris	Roofing Debris
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	Yes	Yes
	Color	Brown	Brown	Black	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	< 0.4	< 0.3	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	< 0.4 Inconclusive	< 0.3 Inconclusive	ND Inconclusive	ND
Other Materials Present	% Organic	61.2	55.8	19.4	98.0
	% Carbonates	2.3	12.4	34.9	1.0
	% Other Inorganic	36.5	31.8	45.7	1.0

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Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-50		5197-CLES-51		5197-CLES-56	5197-CLES-56
Layer Number						1	2
Lab ID Number		2898631		2898632		2898633	2898633
Sample Location		1st Floor, Speech Room, Floor, Under Carpet, Yellow		1st Floor, Conference Room, Floor, Under Carpet, Yellow		1st Floor, Room 105, Floor, 9' x 9' On Slab, Under 12" x 12" Floor Tile, Green	1st Floor, Room 105, Floor, 9' x 9' On Slab, Under 12" x 12" Floor Tile, Green
Sample Description		Carpet Mastic		Carpet Mastic		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm		NOB Plm		NOB Plm	NOB Plm
Appearance	Layered	No		No		No	No
	Homogenous	Yes		Yes		Yes	Yes
	Fibrous	No		No		No	No
	Color	Tan		Tan		Green	Black
Asbestos Content	% Amosite	ND		ND		ND	ND
	% Chrysotile	< 0.3		ND		1.6	2.5
	% Other	ND		ND		ND	ND
	% Total Asbestos	< 0.3	Inconclusive	ND	Inconclusive	1.6	2.5
Other Materials Present	% Organic	52.9		62.8		24.4	79.8
	% Carbonates	13.1		7.6		52.4	8.9
	% Other Inorganic	34.0		29.6		21.6	8.8

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Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-57	5197-CLES-57	5197-CLES-58	5197-CLES-58	
Layer Number		1	2	1	2	
Lab ID Number		2898634	2898634	2898635	2898635	
Sample Location		1st Floor, Room 106, Floor, Under 12" x 12" Floor Tile, 9" x 9" Beige	1st Floor, Room 106, Floor, Under 12" x 12" Floor Tile, 9" x 9" Beige	1st Floor, Room 110, Floor, 9" x 9" Black, On Slab	1st Floor, Room 110, Floor, 9" x 9" Black, On Slab	
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm	
Appearance	Layered	No	No	No	No	
	Homogenous	Yes	Yes	Yes	Yes	
	Fibrous	No	No	No	No	
	Color	Tan	Black	Black	Black	
Asbestos Content	% Amosite	ND	ND	ND	ND	
	% Chrysotile	1.3	1.8	3.1	0.2	
	% Other	ND	ND	ND	ND	
	% Total Asbestos	1.3	1.8	3.1	0.2	Inconclusive
Other Materials Present	% Organic	24.7	83.4	22.1	68.0	
	% Carbonates	54.2	8.2	58.4	19.9	
	% Other Inorganic	19.8	6.6	16.4	11.9	

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Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

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Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-59	5197-CLES-59	5197-CLES-60	5197-CLES-61
Layer Number		1	2		
Lab ID Number		2898636	2898636	2898637	2898638
Sample Location		1st Floor, Room 110, Floor, 9" x 9" Black, On Slab	1st Floor, Room 110, Floor, 9" x 9" Black, On Slab	1st Floor, Room 109, Floor, On Leveler, 12" x 12" Beige Speck	1st Floor, Room 109, Floor, On Leveler, 12" x 12" Beige Speck
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile Only	Floor Tile Only
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Blue/Red/Yellow	Black	Beige	Beige
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	1.1	3.9	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	1.1	3.9	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	20.7	65.4	21.5	20.8
	% Carbonates	50.9	13.3	77.3	74.6
	% Other Inorganic	27.3	17.4	1.2	4.6

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Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-62	5197-CLES-63	5197-CLES-66	5197-CLES-66
Layer Number				1	2
Lab ID Number		2898639	2898640	2898641	2898641
Sample Location		1st Floor, Room 209, Floor, On Leveler, 12" x 12" Blue	1st Floor, Room 209, Floor, On Leveler, 12" x 12" Blue	1st Floor, Room 106, Floor, 12" x 12" Gray	1st Floor, Room 106, Floor, 12" x 12" Gray
Sample Description		Floor Tile Only	Floor Tile Only	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Blue	Blue	Gray	Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	0.4
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND Inconclusive	0.4 Inconclusive
Other Materials Present	% Organic	17.2	17.8	27.0	62.4
	% Carbonates	82.2	81.3	68.7	7.0
	% Other Inorganic	0.6	0.9	4.3	30.2

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Analyzed By : George Htay
Signature :
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NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-67	5197-CLES-67	5197-CLES-68	5197-CLES-68
Layer Number		1	2	1	2
Lab ID Number		2898642	2898642	2898643	2898643
Sample Location		1st Floor, Room 106, Floor, 12" x 12" Gray	1st Floor, Room 106, Floor, 12" x 12" Gray	1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks	1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	Brown	White	Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	0.4	ND	0.3
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	0.4 Inconclusive	ND Inconclusive	0.3 Inconclusive
Other Materials Present	% Organic	26.1	62.3	23.4	50.3
	% Carbonates	68.7	6.4	70.8	23.9
	% Other Inorganic	5.2	30.9	5.8	25.5

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Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-69	5197-CLES-69	5197-CLES-70	5197-CLES-70
Layer Number		1	2	1	2
Lab ID Number		2898644	2898644	2898645	2898645
Sample Location		1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks	1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks	1st Floor, Room 102 A, Floor, 12" x 12" Tan	1st Floor, Room 102 A, Floor, 12" x 12" Tan
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	Yes
	Color	Beige	Brown	Beige	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	0.2	ND	< 0.1
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	0.2 Inconclusive	ND	< 0.1 Inconclusive
Other Materials Present	% Organic	15.0	43.1	15.0	76.3
	% Carbonates	84.7	41.1	84.9	11.3
	% Other Inorganic	0.3	15.6	0.1	12.4

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Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
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Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-71	5197-CLES-71	5197-CLES-72	5197-CLES-72
Layer Number		1	2	1	2
Lab ID Number		2898646	2898646	2898647	2898647
Sample Location		1st Floor, Room 102 B, Floor, 12" x 12" Tan	1st Floor, Room 102 B, Floor, 12" x 12" Tan	1st Floor, Room 106, Floor, 12" x 12" Black	1st Floor, Room 106, Floor, 12" x 12" Black
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	Yes	No	Yes
	Color	Beige	Black	Black	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	< 0.1	ND	0.1
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	< 0.1 Inconclusive	ND	0.1 Inconclusive
Other Materials Present	% Organic	15.5	51.0	17.0	61.2
	% Carbonates	84.3	43.0	82.9	31.1
	% Other Inorganic	0.2	6.0	0.1	7.6

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. Samples received in acceptable condition unless otherwise noted. ND = Not Detected. Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-73	5197-CLES-73	5197-CLES-74	5197-CLES-74
Layer Number		1	2	1	2
Lab ID Number		2898648	2898648	2898649	2898649
Sample Location		1st Floor, Room 106, Floor, 12" x 12" Black	1st Floor, Room 106, Floor, 12" x 12" Black	1st Floor, Room 400, Floor, 12" x 12" Red/Bown	1st Floor, Room 400, Floor, 12" x 12" Red/Bown
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	Yes	No	Yes
	Color	Black	Black	Red	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	< 0.1	ND	< 0.1
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	< 0.1 Inconclusive	ND	< 0.1 Inconclusive
Other Materials Present	% Organic	15.9	71.4	16.6	68.7
	% Carbonates	84.0	19.9	83.3	22.4
	% Other Inorganic	0.1	8.7	0.1	8.9

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-75	5197-CLES-75	5197-CLES-76	5197-CLES-77
Layer Number		1	2		
Lab ID Number		2898650	2898650	2898651	2898652
Sample Location		1st Floor, Room 405, Floor, 12" x 12" Red/Bown	1st Floor, Room 405, Floor, 12" x 12" Red/Bown	1st Floor, Room 405, Floor, 12" x 12" With with Red Streaks	1st Floor, Room 408, Floor, 12" x 12" With with Red Streaks
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile Only	Floor Tile Only
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Red	Black	Beige	Beige
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND Inconclusive	ND	ND
Other Materials Present	% Organic	15.5	67.1	15.4	15.4
	% Carbonates	84.4	27.9	84.4	84.4
	% Other Inorganic	0.1	5.0	0.2	0.2

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-78	5197-CLES-79	5197-CLES-80	5197-CLES-81
Layer Number					
Lab ID Number		2898653	2898654	2898655	2898656
Sample Location		1st Floor, Room 301 B, Floor, Blue/Gray Streak, 12" x 12"	1st Floor, Room 301 B, Floor, Blue/Gray Streak, 12" x 12"	1st Floor, Room 102 A, Window, Between Wall and Window Frame	1st Floor, Room 108, Window, Between Wall and Window Frame
Sample Description		Floor Tile Only	Floor Tile Only	Caulk	Caulk
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	Gray	White	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	16.1	14.4	71.0	68.9
	% Carbonates	81.6	82.7	12.9	12.6
	% Other Inorganic	2.3	2.9	16.1	18.5

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/06/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
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Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-82	5197-CLES-83
Layer Number			
Lab ID Number		2898657	2898658
Sample Location		1st Floor, Room 102 A, Sink, On Metal Basin, Gray	1st Floor, Room 102 B, Sink, On Metal Basin, Gray
Sample Description		Anti-Sweat Tar	Anti-Sweat Tar
Analytical Method		NOB Plm	NOB Plm
Appearance	Layered	No	No
	Homogenous	Yes	Yes
	Fibrous	No	No
	Color	Gray	Gray
Asbestos Content	% Amosite	ND	ND
	% Chrysotile	ND	ND
	% Other	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	29.9	29.8
	% Carbonates	33.9	36.2
	% Other Inorganic	36.2	34.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-25	5197-CLES-25	5197-CLES-26	5197-CLES-26
Layer Number		1	2	1	2
Lab ID Number		2898609	2898609	2898610	2898610
Sample Location		1st Floor, Room 309, Wall, On Sheetrock, Brown, 4 inch	1st Floor, Room 309, Wall, On Sheetrock, Brown, 4 inch	1st Floor, Room 308, Wall, On Sheetrock, Brown, 4 inch	1st Floor, Room 308, Wall, On Sheetrock, Brown, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Brown	Tan	Brown	Tan
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	41.6	45.5	43.4	45.7
	% Carbonates	8.7	8.2	0.2	22.3
	% Other Inorganic	49.7	46.3	56.4	32.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-29	5197-CLES-30	5197-CLES-31	5197-CLES-32
Layer Number		2	2	2	2
Lab ID Number		2898613	2898614	2898615	2898616
Sample Location		1st Floor, Room 301 B, On Sheetrock Wall, Light Gray, 4 inch	1st Floor, Room 311, On Sheetrock Wall, Light Gray, 4 inch	1st Floor, Room 107, On CMU Wall, Dark Gray, 4 inch	1st Floor, Room 304, On CMU Wall, Dark Gray, 4 inch
Sample Description		Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Adhesive Layer))
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Tan	White	Tan/Brown	White/Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	50.3	49.8	41.4	39.6
	% Carbonates	41.7	34.8	49.5	29.0
	% Other Inorganic	8.0	15.4	9.1	31.4

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-33	5197-CLES-34	5197-CLES-35	5197-CLES-36
Layer Number		2	2		
Lab ID Number		2898617	2898618	2898619	2898620
Sample Location		1st Floor, Room 202 A, On Plaster Wall, Black, 4 inch	1st Floor, Storage Room Next to 202 A, On Sheetrock Wall, Black, 4 inch	1st Floor, Room 102 A, Suspended Ceiling, 2' x 4' Dotted	1st Floor, Room 102 A, Suspended Ceiling, 2' x 4' Dotted
Sample Description		Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Ceiling Tile	Ceiling Tile
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	Yes	Yes
	Homogenous	Yes	Yes	No	No
	Fibrous	No	No	Yes	Yes
	Color	White	White	White/Yellow	White/Yellow
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	50.7	48.2	36.2	38.0
	% Carbonates	36.6	38.5	39.2	24.7
	% Other Inorganic	12.7	13.3	24.6	37.3

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-37	5197-CLES-38	5197-CLES-39	5197-CLES-40
Layer Number					
Lab ID Number		2898621	2898622	2898623	2898624
Sample Location		1st Floor, Room 308, Ceiling, Above Suspended Ceiling, Splined 1' x 1'	1st Floor, Room 307, Ceiling, Above Suspended Ceiling, Splined 1' x 1'	1st Floor, Room 308, Suspended Ceiling, 2' x 2'	1st Floor, Room 307, Suspended Ceiling, 2' x 2'
Sample Description		Ceiling Tile	Ceiling Tile	Ceiling Tile	Ceiling Tile
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	Yes	Yes	Yes	Yes
	Homogenous	No	No	No	No
	Fibrous	Yes	Yes	Yes	Yes
	Color	Gray/White	Gray/White	Gray/White	Gray/White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	13.4	16.2	22.2	23.6
	% Carbonates	50.8	54.9	45.4	44.4
	% Other Inorganic	35.8	28.9	32.4	32.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-42	5197-CLES-43	5197-CLES-44	5197-CLES-45
Layer Number					
Lab ID Number		2898626	2898627	2898628	2898629
Sample Location		1st Floor, Room 108, Above Suspended Ceiling, On Sheetrock, 1' x 1' Glued	1st Floor, Room 106, Above Suspended Ceiling, On Sheetrock, Residual	1st Floor, Room 105, Above Suspended Ceiling, On Sheetrock, Residual	1st Floor, Room 105, Above Suspended Ceiling, On 2' x 4' Ceiling Tile
Sample Description		Ceiling Tile	Glue Dab	Glue Dab	Roofing Debris
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	Yes	No	No	No
	Homogenous	No	Yes	Yes	Yes
	Fibrous	Yes	No	No	Yes
	Color	White/Tan	Brown	Brown	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	3.7	3.2	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	3.7	3.2	ND
Other Materials Present	% Organic	91.1	61.2	55.8	19.4
	% Carbonates	2.3	2.3	12.4	34.9
	% Other Inorganic	6.6	32.8	28.6	45.7

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Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-50	5197-CLES-51	5197-CLES-58	5197-CLES-60
Layer Number				2	
Lab ID Number		2898631	2898632	2898635	2898637
Sample Location		1st Floor, Speech Room, Floor, Under Carpet, Yellow	1st Floor, Conference Room, Floor, Under Carpet, Yellow	1st Floor, Room 110, Floor, 9" x 9" Black, On Slab	1st Floor, Room 109, Floor, On Leveler, 12" x 12" Beige Speck
Sample Description		Carpet Mastic	Carpet Mastic	Floor Tile & Mastic (Mastic Layer)	Floor Tile Only
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Tan	Tan	Black	Beige
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	0.3	ND	3.0	< 0.1
	% Other	ND	ND	ND	ND
	% Total Asbestos	0.3	ND	3.0	< 0.1
Other Materials Present	% Organic	52.9	62.8	68.0	21.5
	% Carbonates	13.1	7.6	19.9	77.3
	% Other Inorganic	33.7	29.6	9.1	1.2

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-61	5197-CLES-66	5197-CLES-66	5197-CLES-67
Layer Number			1	2	1
Lab ID Number		2898638	2898641	2898641	2898642
Sample Location		1st Floor, Room 109, Floor, On Leveler, 12" x 12" Beige Speck	1st Floor, Room 106, Floor, 12" x 12" Gray	1st Floor, Room 106, Floor, 12" x 12" Gray	1st Floor, Room 106, Floor, 12" x 12" Gray
Sample Description		Floor Tile Only	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Beige	Gray	Brown	Gray
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	1.5	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	1.5	ND
Other Materials Present	% Organic	20.8	27.0	62.4	26.1
	% Carbonates	74.6	68.7	7.0	68.7
	% Other Inorganic	4.6	4.3	29.1	5.2

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

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Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-67	5197-CLES-68	5197-CLES-68	5197-CLES-69
Layer Number		2	1	2	2
Lab ID Number		2898642	2898643	2898643	2898644
Sample Location		1st Floor, Room 106, Floor, 12" x 12" Gray	1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks	1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks	1st Floor, Room 105, Floor, 12" x 12" White with Black Streaks
Sample Description		Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Brown	White	Brown	Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	1.6	ND	2.6	6.3
	% Other	ND	ND	ND	ND
	% Total Asbestos	1.6	ND	2.6	6.3
Other Materials Present	% Organic	62.3	23.4	50.3	43.1
	% Carbonates	6.4	70.8	23.9	41.1
	% Other Inorganic	29.7	5.8	23.2	9.5

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Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-70	5197-CLES-71	5197-CLES-72	5197-CLES-73
Layer Number		2	2	2	2
Lab ID Number		2898645	2898646	2898647	2898648
Sample Location		1st Floor, Room 102 A, Floor, 12" x 12" Tan	1st Floor, Room 102 B, Floor, 12" x 12" Tan	1st Floor, Room 106, Floor, 12" x 12" Black	1st Floor, Room 106, Floor, 12" x 12" Black
Sample Description		Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	Yes	Yes	Yes	Yes
	Color	Black	Black	Black	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	0.4	0.2	2.3	0.2
	% Other	ND	ND	ND	ND
	% Total Asbestos	0.4	0.2	2.3	0.2
Other Materials Present	% Organic	76.3	51.0	61.2	71.4
	% Carbonates	11.3	43.0	31.1	19.9
	% Other Inorganic	12.0	5.8	5.4	8.5

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Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-74	5197-CLES-75	5197-CLES-78	5197-CLES-79
Layer Number		2	2		
Lab ID Number		2898649	2898650	2898653	2898654
Sample Location		1st Floor, Room 400, Floor, 12" x 12" Red/Bown	1st Floor, Room 405, Floor, 12" x 12" Red/Bown	1st Floor, Room 301 B, Floor, Blue/Gray Streak, 12" x 12"	1st Floor, Room 301 B, Floor, Blue/Gray Streak, 12" x 12"
Sample Description		Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile Only	Floor Tile Only
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	Yes	No	No	No
	Color	Black	Black	Gray	Gray
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	0.2	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	0.2	ND	ND	ND
Other Materials Present	% Organic	68.7	67.1	16.1	14.4
	% Carbonates	22.4	27.9	81.6	82.7
	% Other Inorganic	8.7	5.0	2.3	2.9

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Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-CLES-80	5197-CLES-81	5197-CLES-82	5197-CLES-83
Layer Number					
Lab ID Number		2898655	2898656	2898657	2898658
Sample Location		1st Floor, Room 102 A, Window, Between Wall and Window Frame	1st Floor, Room 108, Window, Between Wall and Window Frame	1st Floor, Room 102 A, Sink, On Metal Basin, Gray	1st Floor, Room 102 B, Sink, On Metal Basin, Gray
Sample Description		Caulk	Caulk	Anti-Sweat Tar	Anti-Sweat Tar
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	White	White	Gray	Gray
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	71.0	68.9	29.9	29.8
	% Carbonates	12.9	12.6	33.9	36.2
	% Other Inorganic	16.1	18.5	36.2	34.0

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Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

CLIENT: Clark Patterson Lee
ADDRESS: 50 Front Street, Suite 202
Newburgh, NY 12550

CONTACT: Lauren Tarsio
PROJECT ID: South Orangetown CSD
160 Van Wyck Rd, Blauvelt NY 10913
PROJECT # : 23-5197

SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample	HM#	Floor	Space Name/ID #	Location	Material
5197-CLES-01		1	300'S HALLWAY	BY MAIN ENTRY, ABOVE SUSENED CEILING, ON CMU, WALL	PLASTER
5197-CLES-02		1	300'S HALLWAY	ABOVE SUSPENDED CEILING, ON CMU, WALL	PLASTER
5197-CLES-03		1	ROOM 305	WALL, ON METAL LATHE	PLASTER
5197-CLES-04		1	ROOM 308	WALL, ON CMU	PLASTER
5197-CLES-05		1	ROOM 309	WALL, ON CMU	PLASTER
5197-CLES-06		1	300'S GENDER NEUTRAL BATHROOM	CEILING, ON METAL LATHE	PLASTER
5197-CLES-07		1	300'S GIRL'S BATHROOM	CEILING, ON METAL LATHE	PLASTER
5197-CLES-08		1	300'S BOY'S BATHROOM	CEILING, ON METAL LATHE	PLASTER
5197-CLES-09		1	300'S BOY'S BATHROOM	CEILING, ON METAL LATHE	PLASTER
5197-CLES-10		1	ROOM 107	PERIMETER WALL, ON SHEETROCK	JOINT COMPOUND
5197-CLES-11		1	ROOM 108	WALL, ON SHEETROCK	JOINT COMPOUND
5197-CLES-12		1	ROOM 205	PERIMETER WALL, ON SHEETROCK	JOINT COMPOUND
5197-CLES-13		1	ROOM 303	PERIMETER WALL, ON SHEETROCK	JOINT COMPOUND
5197-CLES-14		1	ROOM 310	PERIMETER WALL, ON SHEETROCK	JOINT COMPOUND
5197-CLES-15		1	100'S WING GIRL'S BATHROOM	ON SHEETROCK CEILING	JOINT COMPOUND

Comments:

SUBMITTED BY: [signature] DATE: 02/27/23

RECEIVED BY: [signature] FEB 27'23 19:17 DATE:

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

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Newburgh, NY 12550

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SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample	HM#	Floor	Space Name/ID #	Location	Material
5197-CLES-16		1	100'S WING BOY'S BATHROOM	ON SHEETROCK CEILING	JOINT COMPOUND
5197-CLES-17		1	BOY'S BATHROOM BY 400	ON SHEETROCK CEILING	JOINT COMPOUND
5197-CLES-18		1	BOY'S BATHROOM BY 401	ON SHEETROCK CEILING	JOINT COMPOUND
5197-CLES-19		1	100'S WING BOY'S BATHROOM	CEILING	SHEETROCK
5197-CLES-20		1	ROOM 102A	PERIMETER WALL	SHEETROCK
5197-CLES-21		1	ROOM 102A	WALL	BLOCK & MORTAR
5197-CLES-22		1	ROOM 304	WALL	BLOCK & MORTAR
5197-CLES-23		1	100'S WING MEN'S BATHROOM	ON CMU WALL	CERAMIC WALL TILE, GROUT, MORTAR
5197-CLES-24		1	100'S WING WOMEN'S BATHROOM	ON CMU WALL	CERAMIC WALL TILE, GROUT, MORTAR
2898609 5197-CLES-25		1	ROOM 309	WALL, ON SHEETROCK, BROWN, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898610 5197-CLES-26		1	ROOM 308	WALL, ON SHEETROCK, BROWN, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898611 5197-CLES-27		1	ROOM 102 B	ON SHEETROCK WALL, BEIGE, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898612 5197-CLES-28		1	ROOM 102 A	ON SHEETROCK WALL, BEIGE, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898613 5197-CLES-29		1	ROOM 301 B	ON SHEETROCK WALL, LIGHT GRAY, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898614 5197-CLES-30		1	ROOM 311	ON SHEETROCK WALL, LIGHT GRAY, 4 INCH	COVEBASE MOLDING & ADHESIVE

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PROJECT # : 23-5197

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DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample		HM#	Floor	Space Name/ID #	Location	Material
2898615	5197-CLES-31		1	ROOM 107	ON CMU WALL, DARK GRAY, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898616	5197-CLES-32		1	ROOM 304	ON CMU WALL, DARK GRAY, 4 INCH	COVEBASE MOLDING & ADHESIVE
2898617	5197-CLES-33		1	ROOM 202 A	ON PLASTER WALL, BLACK 4 INCH	COVEBASE MOLDING & ADHESIVE
2898618	5197-CLES-34		1	STRORAGE ROOM NEXT TO 202 A	ON SHEETROCK WALL, BLACK 4 INCH	COVEBASE MOLDING & ADHESIVE
2898619	5197-CLES-35		1	ROOM 102 A	SUSPENDED CEILING, 2'X4' DOTTED	CEILING TILE
2898620	5197-CLES-36		1	ROOM 102 A	SUSPENDED CEILING, 2'X4' DOTTED	CEILING TILE
2898621	5197-CLES-37		1	ROOM 308	CEILING, ABOVE SUSPENDED CEILING, SPLINED 1'X1'	CEILING TILE
2898622	5197-CLES-38		1	ROOM 307	CEILING, ABOVE SUSPENDED CEILING, SPLINED 1'X1'	CEILING TILE
2898623	5197-CLES-39		1	ROOM 308	SUSPENDED CEILING, 2'X2'	CEILING TILE
2898624	5197-CLES-40		1	ROOM 307	SUSPENDED CEILING, 2'X2'	CEILING TILE
2898625	5197-CLES-41		1	ROOM 106	ABOVE SUSPENDED CEILINING, ON SHEETROCK, 1'X1' GLUED	CEILING TILE
2898626	5197-CLES-42		1	ROOM 108	ABOVE SUSPENDED CEILINING, ON SHEETROCK, 1'X1' GLUED	CEILING TILE
2898627	5197-CLES-43		1	ROOM 106	ABOVE SUSPENDED CEILING, ON SHEETROCK, RESIDUAL	GLUE DAB
2898628	5197-CLES-44		1	ROOM 105	ABOVE SUSPENDED CEILING, ON SHEETROCK, RESIDUAL	GLUE DAB
2898629	5197-CLES-45		1	ROOM 105	ABOVE SUSPENDED CEILING, ON 2'X4' CEILING TILE	ROOFING DEBRIS

Comments:

SUBMITTED BY:

DATE: 02/27/23

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DATE: FEB 27'23 19:17

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

CLIENT: Clark Patterson Lee
ADDRESS: 50 Front Street, Suite 202
Newburgh, NY 12550

CONTACT: Lauren Tarsio
PROJECT ID: South Orangetown CSD
160 Van Wyck Rd, Blauvelt NY 10913
PROJECT # : 23-5197

SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample		HM#	Floor	Space Name/ID #	Location	Material
2898630	5197-CLES-46		1	ROOM 105	ABOVE SUSPENDED CEILING, ON 2'X4' CEILING TILE	ROOFING DEBRIS
	5197-CLES-47		1	ROOM 102 A	ABOVE SUSPENDED CEILING	INSULATION
	5197-CLES-48		1	ROOM 102 A	ABOVE SUSPENDED CEILING	INSULATION
	5197-CLES-49		1	ROOM 102 A	ABOVE SUSPENDED CEILING	INSULATION
2898631	5197-CLES-50		1	SPEECH ROOM	FLOOR, UNDER CARPET, YELLOW	CARPET MASTIC
2898632	5197-CLES-51		1	CONFERENCE ROOM	FLOOR, UNDER CARPET, YELLOW	CARPET MASTIC
	5197-CLES-52		1	100'S WING BOY'S BATHROOM	FLOOR, ON SLAB	CERAMIC FLOOR TILE, GROUT, MUDSET
	5197-CLES-53		1	100'S WING GIRL'S BATHROOM	FLOOR, ON SLAB	CERAMIC FLOOR TILE, GROUT, MUDSET
	5197-CLES-54		1	ROOM 102 A	FLOOR, INDER 12"X12" FLOOR TILE	CONCRETE SLAB
	5197-CLES-55		1	ROOM 110	FLOOR, UNDER 9"X9" FLOOR TILE	CONCRETE SLAB
2898633	5197-CLES-56		1	ROOM 105	FLOOR, 9"X9" ON SLAB, UNDER 12"X12" FLOOR TILE, GREEN	FLOOR TILE & MASTIC
2898634	5197-CLES-57		1	ROOM 106	FLOOR, UNDER 12"X12" FLOOR TILE, 9"X9" BEIGE	FLOOR TILE & MASTIC
2898635	5197-CLES-58		1	ROOM 110	FLOOR, 9"X9" BLACK, ON SLAB	FLOOR TILE & MASTIC
2898636	5197-CLES-59		1	ROOM 110	FLOOR, 9"X9" TEAL, ON SLAB	FLOOR TILE & MASTIC
2898637	5197-CLES-60		1	ROOM 109	FLOOR, ON LEVELER, 12"X12" BEIGE SPECK	FLOOR TILE ONLY

Comments:

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DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample		HM#	Floor	Space Name/ID #	Location	Material
2898638	5197-CLES-61		1	ROOM 109	FLOOR, ON LEVELER, 12"X12" BEIGE SPECK	FLOOR TILE ONLY
2898639	5197-CLES-62		1	ROOM 209	FLOOR, ON LEVELER, 12"X12" BLUE	FLOOR TILE ONLY
2898640	5197-CLES-63		1	ROOM 209	FLOOR, ON LEVELER, 12"X12" BLUE	FLOOR TILE ONLY
	5197-CLES-64		1	ROOM 109	FLOOR, UNDER 12"X12" BEIGE FLOOR TILE, ON SLAB	LEVELER
	5197-CLES-65		1	ROOM 209	FLOOR, UNDER 12"X12" BLUE FLOOR TILE, ON SLAB	LEVELER
2898641	5197-CLES-66		1	ROOM 106	FLOOR, 12"X12" GRAY	FLOOR TILE & MASTIC
2898642	5197-CLES-67		1	ROOM 106	FLOOR, 12"X12" GRAY	FLOOR TILE & MASTIC
2898643	5197-CLES-68		1	ROOM 105	FLOOR, 12"X12" WHITE WITH BLACK STREAKS	FLOOR TILE & MASTIC
2898644	5197-CLES-69		1	ROOM 105	FLOOR, 12"X12" WHITE WITH BLACK STREAKS	FLOOR TILE & MASTIC
2898645	5197-CLES-70		1	ROOM 102 A	FLOOR, 12"X12" TAN	FLOOR TILE & MASTIC
2898646	5197-CLES-71		1	ROOM 102 B	FLOOR, 12"X12" TAN	FLOOR TILE & MASTIC
2898647	5197-CLES-72		1	ROOM 106	FLOOR, 12"X12" BLACK	FLOOR TILE & MASTIC
2898648	5197-CLES-73		1	ROOM 106	FLOOR, 12"X12" BLACK	FLOOR TILE & MASTIC
2898649	5197-CLES-74		1	ROOM 400	FLOOR, 12"X12" RED/BROWN	FLOOR TILE & MASTIC
2898650	5197-CLES-75		1	ROOM 405	FLOOR, 12"X12" RED/BROWN	FLOOR TILE & MASTIC

Comments:

SUBMITTED BY: [signature] DATE: 02/27/23

RECEIVED BY: [signature] DATE: FEB 27 '23 19:14

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

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ADDRESS: 50 Front Street, Suite 202
Newburgh, NY 12550

CONTACT: Lauren Tarsio
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160 Van Wyck Rd, Blauvelt NY 10913
PROJECT # : 23-5197

SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample		HM#	Floor	Space Name/ID #	Location	Material
2898651	5197-CLES-76		1	ROOM 405	FLOOR, 12"X12" WHITE WITH RED STREAKS	FLOOR TILE ONLY
2898652	5197-CLES-77		1	ROOM 408	FLOOR, 12"X12" WHITE WITH RED STREAKS	FLOOR TILE ONLY
2898653	5197-CLES-78		1	ROOM 301 B	FLOOR, BLUE/GRAY STREAK, 12"X12"	FLOOR TILE ONLY
2898654	5197-CLES-79		1	ROOM 301 B	FLOOR, BLUE/GRAY STREAK, 12"X12"	FLOOR TILE ONLY
2898655	5197-CLES-80		1	ROOM 102 A	WINDOW, BETWEEN WALL AND WINDOW FRAME	CAULK
2898656	5197-CLES-81		1	ROOM 108	WINDOW, BETWEEN WALL AND WINDOW FRAME	CAULK
2898657	5197-CLES-82		1	ROOM 102 A	SINK, ON METAL BASIN, GRAY	ANTI-SWEAT TAR
2898658	5197-CLES-83		1	ROOM 102 B	SINK, ON METAL BASIN, GRAY	ANTI-SWEAT TAR

Comments:

SUBMITTED BY:

RECEIVED BY:

DATE: 02/27/23
FEB 27'23 19:18
DATE:

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-01	5197-WOS-01	5197-WOS-02	5197-WOS-02
Layer Number		1	2	1	2
Lab ID Number		2898819	2898819	2898820	2898820
Sample Location		1st Floor, Hallway, Outside Room 6, Wall	1st Floor, Hallway, Outside Room 6, Wall	1st Floor, Hallway, Outside Room 54, Wall	1st Floor, Hallway, Outside Room 54, Wall
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	Yes	No	No
	Fibrous	No	No	No	No
	Color	White/Gray	Gray	White/Gray	Gray
Sample Treatment		Homogenized	None	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	15.0	30.0	15.0	35.0
	% Carbonates	45.0	25.0	40.0	25.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	45.0	45.0	40.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-03	5197-WOS-03	5197-WOS-04	5197-WOS-04
Layer Number		1	2	1	2
Lab ID Number		2898821	2898821	2898822	2898822
Sample Location		1st Floor, Hallway, Outside Room 69, Wall	1st Floor, Hallway, Outside Room 69, Wall	1st Floor, Hallway, Outside Room 106, Wall	1st Floor, Hallway, Outside Room 106, Wall
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White/Gray	Gray	White/Gray	Gray
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	15.0	30.0	20.0	30.0
	% Carbonates	45.0	20.0	40.0	25.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	50.0	40.0	45.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-05	5197-WOS-05	5197-WOS-06	5197-WOS-06
Layer Number		1	2	1	2
Lab ID Number		2898823	2898823	2898824	2898824
Sample Location		1st Floor, Room 4, Wall	1st Floor, Room 4, Wall	1st Floor, Room 6, Wall	1st Floor, Room 6, Wall
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	No	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White/Gray	Gray	White	Gray
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	15.0	35.0	15.0	30.0
	% Carbonates	45.0	20.0	40.0	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	45.0	45.0	50.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-07	5197-WOS-07	5197-WOS-08	5197-WOS-08
Layer Number		1	2	1	2
Lab ID Number		2898825	2898825	2898826	2898826
Sample Location		1st Floor, Room 53, Wall	1st Floor, Room 53, Wall	1st Floor, Room 63, Wall	1st Floor, Room 63, Wall
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Plaster (Plaster Layer)	Plaster (Scratch Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	White/Gray	Gray	White/Gray	Gray
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	20.0	30.0	15.0	30.0
	% Carbonates	40.0	25.0	45.0	25.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	45.0	40.0	45.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-09	5197-WOS-09	5197-WOS-10	5197-WOS-11
Layer Number		1	2		
Lab ID Number		2898827	2898827	2898828	2898829
Sample Location		1st Floor, Room 66, Wall	1st Floor, Room 66, Wall	1st Floor, Addition Hallway, Above Suspended Ceiling, On Sheetrock	1st Floor, Addition Hallway, By Room 2, On Sheetrock Wall
Sample Description		Plaster (Plaster Layer)	Plaster (Scratch Layer)	Joint Compound	Joint Compound
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	Yes	Yes
	Homogenous	Yes	No	No	No
	Fibrous	No	No	No	No
	Color	White	Gray	White	White
Sample Treatment		None	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	20.0	35.0	25.0	30.0
	% Carbonates	40.0	20.0	30.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	45.0	45.0	40.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-12	5197-WOS-13	5197-WOS-14	5197-WOS-15
Layer Number					
Lab ID Number		2898830	2898831	2898832	2898833
Sample Location		1st Floor, Room 69, On Sheetrock Wall	1st Floor, Room 70, On Sheetrock Wall	1st Floor, Room 71, On Sheetrock Wall	1st Floor, Room 72, Above Suspended Ceiling, On Sheetrock
Sample Description		Joint Compound	Joint Compound	Joint Compound	Joint Compound
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	Yes
	Homogenous	Yes	Yes	Yes	No
	Fibrous	No	No	No	No
	Color	White	White	White	White
Sample Treatment		None	None	None	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	30.0	25.0	25.0
	% Carbonates	30.0	30.0	35.0	30.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	40.0	40.0	45.0

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Bulk Sample Results

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Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
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Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-16	5197-WOS-17	5197-WOS-18	5197-WOS-19
Layer Number					1
Lab ID Number		2898834	2898835	2898836	2898837
Sample Location		1st Floor, Room 74, Above Suspended Ceiling, On Sheetrock	1st Floor, Room 72, Wall	1st Floor, Room 69, Wall	1st Floor, Gym, Corridor, Lower Wall
Sample Description		Joint Compound	Sheetrock	Sheetrock	Glazed Block & Mortar (Block Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	Yes	Yes	No
	Homogenous	Yes	No	No	No
	Fibrous	No	Yes	Yes	No
	Color	White	Gray/Brown	Gray/Brown	Beige
Sample Treatment		None	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	5.0	5.0	ND
	% Cellulose	ND	15.0	10.0	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	15.0	15.0	45.0
	% Carbonates	30.0	30.0	30.0	ND
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	35.0	40.0	55.0

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Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-19	5197-WOS-20	5197-WOS-20	5197-WOS-21
Layer Number		2	1	2	1
Lab ID Number		2898837	2898838	2898838	2898839
Sample Location		1st Floor, Gym, Corridor, Lower Wall	1st Floor, Corridor, By Room 57, Wall	1st Floor, Corridor, By Room 57, Wall	1st Floor, Room 57, Perimeter Wall
Sample Description		Glazed Block & Mortar (Mortar Layer)	Glazed Block & Mortar (Block Layer)	Glazed Block & Mortar (Mortar Layer)	Brick & Mortar (Brick Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	No
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	Brown/Gray	Beige	Brown/Gray	Red
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	45.0	30.0	30.0
	% Carbonates	20.0	ND	25.0	ND
	% Other	ND	ND	ND	ND
	% Unidentified	50.0	55.0	45.0	70.0

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Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-21	5197-WOS-22	5197-WOS-22	5197-WOS-23
Layer Number		2	1	2	1
Lab ID Number		2898839	2898840	2898840	2898841
Sample Location		1st Floor, Room 57, Perimeter Wall	1st Floor, Room 32, Perimeter Wall	1st Floor, Room 32, Perimeter Wall	1st Floor, Room 104, Bathroom, On Sheetrock Wall
Sample Description		Brick & Mortar (Mortar Layer)	Brick & Mortar (Brick Layer)	Brick & Mortar (Mortar Layer)	Ceramic Wall Tile, Grout & Adhesive (Tile Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	Yes
	Homogenous	No	No	No	No
	Fibrous	No	No	No	No
	Color	Gray/Brown	Red	Gray/Brown	White/Gray
Sample Treatment		Homogenized	Homogenized	Homogenized	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	30.0	35.0	40.0
	% Carbonates	25.0	ND	25.0	ND
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	70.0	40.0	60.0

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Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

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Collected By : S. Talsma/Z. Timpano/J. Mages
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Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-23	5197-WOS-24	5197-WOS-24	5197-WOS-31
Layer Number		2	1	2	1
Lab ID Number		2898841	2898842	2898842	2898843
Sample Location		1st Floor, Room 104, Bathroom, On Sheetrock Wall	1st Floor, Room 101, Bathroom, On Sheetrock Wall	1st Floor, Room 101, Bathroom, On Sheetrock Wall	1st Floor, Room 21, Bathroom, Floor
Sample Description		Ceramic Wall Tile, Grout & Adhesive (Grout Layer)	Ceramic Wall Tile, Grout & Adhesive (Tile Layer)	Ceramic Wall Tile, Grout & Adhesive (Grout Layer)	Ceramic Floor Tile, Grout & Setting Bed (Tile Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	Yes	No	No
	Homogenous	Yes	No	Yes	Yes
	Fibrous	No	No	No	No
	Color	White	White/Gray	White	Green/White
Sample Treatment		None	Homogenized	None	None
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	20.0	40.0	15.0	40.0
	% Carbonates	30.0	ND	30.0	ND
	% Other	ND	ND	ND	ND
	% Unidentified	50.0	60.0	55.0	60.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-31	5197-WOS-31	5197-WOS-32	5197-WOS-32
Layer Number		2	3	1	2
Lab ID Number		2898843	2898843	2898844	2898844
Sample Location		1st Floor, Room 21, Bathroom, Floor	1st Floor, Room 21, Bathroom, Floor	1st Floor, Room 32, Bathroom, Floor	1st Floor, Room 32, Bathroom, Floor
Sample Description		Ceramic Floor Tile, Grout & Setting Bed (Grout Layer)	Ceramic Floor Tile, Grout & Setting Bed (Setting Bed Layer)	Ceramic Floor Tile, Grout & Setting Bed (Tile Layer)	Ceramic Floor Tile, Grout & Setting Bed (Grout Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	No
	Homogenous	Yes	No	Yes	Yes
	Fibrous	No	No	No	No
	Color	Gray	Gray	Green/White	Gray
Sample Treatment		None	Homogenized	None	None
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	30.0	35.0	45.0	25.0
	% Carbonates	25.0	25.0	ND	25.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	40.0	55.0	50.0

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-32	5197-WOS-33	5197-WOS-33	5197-WOS-33
Layer Number		3	1	2	3
Lab ID Number		2898844	2898845	2898845	2898845
Sample Location		1st Floor, Room 32, Bathroom, Floor	1st Floor, Room 101, Bathroom, Floor	1st Floor, Room 101, Bathroom, Floor	1st Floor, Room 101, Bathroom, Floor
Sample Description		Ceramic Floor Tile, Grout & Setting Bed (Setting Bed Layer)	Ceramic Floor Tile, Grout & Setting Bed (Tile Layer)	Ceramic Floor Tile, Grout & Setting Bed (Grout Layer)	Ceramic Floor Tile, Grout & Setting Bed (Setting Bed Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	No
	Homogenous	No	Yes	Yes	No
	Fibrous	No	No	No	No
	Color	Gray	Gray	Brown/Gray	Gray/Brown
Sample Treatment		Homogenized	None	None	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	35.0	40.0	35.0	15.0
	% Carbonates	25.0	ND	20.0	35.0
	% Other	ND	ND	ND	ND
	% Unidentified	40.0	60.0	45.0	50.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/02/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-34	5197-WOS-34	5197-WOS-34
Layer Number		1	2	3
Lab ID Number		2898846	2898846	2898846
Sample Location		1st Floor, Room 104, Bathroom, Floor	1st Floor, Room 104, Bathroom, Floor	1st Floor, Room 104, Bathroom, Floor
Sample Description		Ceramic Floor Tile, Grout & Setting Bed (Tile Layer)	Ceramic Floor Tile, Grout & Setting Bed (Grout Layer)	Ceramic Floor Tile, Grout & Setting Bed (Setting Bed Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No
	Homogenous	Yes	Yes	No
	Fibrous	No	No	No
	Color	Gray	Brown/Gray	Gray/Brown
Sample Treatment		None	None	Homogenized
Asbestos Content	% Amosite	ND	ND	ND
	% Chrysotile	ND	ND	ND
	% Other	ND	ND	ND
	% Total Asbestos	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND
	% Cellulose	ND	ND	ND
	% Other	ND	ND	ND
	% Unidentified	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	40.0	35.0	10.0
	% Carbonates	ND	25.0	35.0
	% Other	ND	ND	ND
	% Unidentified	60.0	40.0	55.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-25	5197-WOS-25	5197-WOS-26	5197-WOS-26
Layer Number		1	2	1	2
Lab ID Number		2899361	2899361	2899362	2899362
Sample Location		1st Floor, Room 104, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 104, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 72, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 72, On Sheetrock Wall, Beige, 4 inch
Sample Description		Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Molding Layer)	Cove Base Molding & Adhesive (Adhesive Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Tan	White	Tan	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND Inconclusive	ND	ND Inconclusive
Other Materials Present	% Organic	61.7	36.9	64.4	44.2
	% Carbonates	37.8	61.5	35.1	54.0
	% Other Inorganic	0.5	1.6	0.5	1.8

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-27	5197-WOS-27	5197-WOS-28	5197-WOS-28
Layer Number		1	2	1	2
Lab ID Number		2899363	2899363	2899364	2899364
Sample Location		1st Floor, Room 59, Ceiling, 1' x 1' Dotted	1st Floor, Room 59, Ceiling, 1' x 1' Dotted	1st Floor, Room 66, Above Suspended Ceiling, Ceiling, 1' x 1' Dotted	1st Floor, Room 66, Above Suspended Ceiling, Ceiling, 1' x 1' Dotted
Sample Description		Ceiling Tile & Glue Dab (Tile Layer)	Ceiling Tile & Glue Dab (Glue Dab Layer)	Ceiling Tile & Glue Dab (Tile Layer)	Ceiling Tile & Glue Dab (Glue Dab Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	Yes	No	Yes	No
	Homogenous	No	Yes	No	Yes
	Fibrous	Yes	No	Yes	No
	Color	Gray/White	Brown	Gray/White	Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	21.2	56.1	23.7	56.0
	% Carbonates	19.8	0.2	34.2	0.6
	% Other Inorganic	59.0	43.7	42.1	43.4

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-29	5197-WOS-30	5197-WOS-35	5197-WOS-35
Layer Number				1	2
Lab ID Number		2899365	2899366	2899367	2899367
Sample Location		1st Floor, Room 66, Suspended Ceiling, 2' x 2' Fissure	1st Floor, Room 68, Suspended Ceiling, 2' x 2' Fissure	1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck	1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck
Sample Description		Ceiling Tile	Ceiling Tile	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	Yes	Yes	No	No
	Homogenous	No	No	Yes	Yes
	Fibrous	Yes	Yes	No	No
	Color	Gray/White	Gray/White	White	Tan
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	< 0.1
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND Inconclusive	< 0.1 Inconclusive
Other Materials Present	% Organic	43.3	36.4	34.1	85.7
	% Carbonates	38.5	45.4	54.9	5.9
	% Other Inorganic	18.2	18.2	11.0	8.4

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-36	5197-WOS-36	5197-WOS-37	5197-WOS-37
Layer Number		1	2	1	2
Lab ID Number		2899368	2899368	2899369	2899369
Sample Location		1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck	1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck	1st Floor, Room 57, Floor, On Slab, Tan, 9" x 9"	1st Floor, Room 57, Floor, On Slab, Tan, 9" x 9"
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	Yes
	Color	White	Tan	Beige	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND Inconclusive	ND Inconclusive	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	27.3	85.2	37.1	86.8
	% Carbonates	65.9	9.7	15.7	0.6
	% Other Inorganic	6.8	5.1	47.2	12.6

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-38	5197-WOS-38	5197-WOS-39	5197-WOS-39
Layer Number		1	2	1	2
Lab ID Number		2899370	2899370	2899371	2899371
Sample Location		1st Floor, Room 70, Floor, Bottom Layer, On Slab, Green, 9" x 9"	1st Floor, Room 70, Floor, Bottom Layer, On Slab, Green, 9" x 9"	1st Floor, Room 26, Floor, On Slab, Gray 9" x 9", On Black Mastic	1st Floor, Room 26, Floor, On Slab, Gray 9" x 9", On Black Mastic
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	Yes
	Color	Green	Black	Tan	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	< 0.2	ND	< 0.5	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	< 0.2 Inconclusive	ND Inconclusive	< 0.5 Inconclusive	ND Inconclusive
Other Materials Present	% Organic	32.3	83.5	37.3	76.8
	% Carbonates	51.6	13.5	12.0	16.2
	% Other Inorganic	16.1	3.0	50.7	7.0

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-40	5197-WOS-41	5197-WOS-42	5197-WOS-43
Layer Number					
Lab ID Number		2899372	2899373	2899374	2899375
Sample Location		1st Floor, Room 15, Sink, On Metal Basin, Gray	1st Floor, Room 57, Sink, On Metal Basin, Gray	1st Floor, Room 69, Sink, On Metal Basin, White	1st Floor, Room 72, Sink, On Metal Basin, White
Sample Description		Anti-Sweat Tar	Anti-Sweat Tar	Anti-Sweat Tar	Anti-Sweat Tar
Analytical Method		NOB Plm	NOB Plm	NOB Plm	NOB Plm
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	Purple	Purple	White	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	8.2	7.7	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	8.2	7.7	ND Inconclusive	ND Inconclusive
Other Materials Present	% Organic	21.8	22.2	38.5	42.7
	% Carbonates	30.8	27.7	30.8	26.2
	% Other Inorganic	39.2	42.4	30.7	31.1

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/07/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.6
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-44	5197-WOS-45
Layer Number			
Lab ID Number		2899376	2899377
Sample Location		1st Floor, Room 70, Sink, On Metal Basin, Black	1st Floor, Room 74, Sink, On Metal Basin, Black
Sample Description		Anti-Sweat Tar	Anti-Sweat Tar
Analytical Method		NOB Plm	NOB Plm
Appearance	Layered	No	No
	Homogenous	Yes	Yes
	Fibrous	No	No
	Color	Black	Black
Asbestos Content	% Amosite	ND	ND
	% Chrysotile	0.5	< 0.3
	% Other	ND	ND
	% Total Asbestos	0.5 Inconclusive	< 0.3 Inconclusive
Other Materials Present	% Organic	25.1	42.1
	% Carbonates	69.4	28.4
	% Other Inorganic	5.0	29.5

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. Samples received in acceptable condition unless otherwise noted. ND = Not Detected. Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
These Results Cannot Be Used To Claim That NOB Items Tested Are Non-Asbestos Containing (Unless "% Other Inorganic", As Reported Above, Is Less Than One Percent).
This method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.
AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/08/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-25	5197-WOS-26	5197-WOS-27	5197-WOS-27
Layer Number		2	2	1	2
Lab ID Number		2899361	2899362	2899363	2899363
Sample Location		1st Floor, Room 104, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 72, On Sheetrock Wall, Beige, 4 inch	1st Floor, Room 59, Ceiling, 1' x 1' Dotted	1st Floor, Room 59, Ceiling, 1' x 1' Dotted
Sample Description		Cove Base Molding & Adhesive (Adhesive Layer)	Cove Base Molding & Adhesive (Adhesive Layer)	Ceiling Tile & Glue Dab (Tile Layer)	Ceiling Tile & Glue Dab (Glue Dab Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	Yes	No
	Homogenous	Yes	Yes	No	Yes
	Fibrous	No	No	Yes	No
	Color	White	White	Gray/White	Brown
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	36.9	44.2	21.2	56.1
	% Carbonates	61.5	54.0	19.8	0.2
	% Other Inorganic	1.6	1.8	59.0	43.7

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/08/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-28	5197-WOS-28	5197-WOS-29	5197-WOS-30
Layer Number		1	2		
Lab ID Number		2899364	2899364	2899365	2899366
Sample Location		1st Floor, Room 66, Above Suspended Ceiling, Ceiling, 1' x 1' Dotted	1st Floor, Room 66, Above Suspended Ceiling, Ceiling, 1' x 1' Dotted	1st Floor, Room 66, Suspended Ceiling, 2' x 2' Fissure	1st Floor, Room 68, Suspended Ceiling, 2' x 2' Fissure
Sample Description		Ceiling Tile & Glue Dab (Tile Layer)	Ceiling Tile & Glue Dab (Glue Dab Layer)	Ceiling Tile	Ceiling Tile
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	Yes	No	Yes	Yes
	Homogenous	No	Yes	No	No
	Fibrous	Yes	No	Yes	Yes
	Color	Gray/White	Brown	Gray/White	Gray/White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Materials Present	% Organic	23.7	56.0	43.3	36.4
	% Carbonates	34.2	0.6	38.5	45.4
	% Other Inorganic	42.1	43.4	18.2	18.2

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DHP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/08/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-35	5197-WOS-35	5197-WOS-36	5197-WOS-36
Layer Number		1	2	1	2
Lab ID Number		2899367	2899367	2899368	2899368
Sample Location		1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck	1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck	1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck	1st Floor, Room 70, Floor, On 9" x 9" Floor Tile, 12" x 12" White Speck
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	No	No	No
	Color	White	Tan	White	Tan
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	0.5	0.4	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	0.5	0.4	ND	ND
Other Materials Present	% Organic	34.1	85.7	27.3	85.2
	% Carbonates	54.9	5.9	65.9	9.7
	% Other Inorganic	10.5	8.0	6.8	5.1

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DHP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/08/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-37	5197-WOS-37	5197-WOS-38	5197-WOS-38
Layer Number		1	2	1	2
Lab ID Number		2899369	2899369	2899370	2899370
Sample Location		1st Floor, Room 57, Floor, On Slab, Tan, 9" x 9"	1st Floor, Room 57, Floor, On Slab, Tan, 9" x 9"	1st Floor, Room 70, Floor, Bottom Layer, On Slab, Green, 9" x 9"	1st Floor, Room 70, Floor, Bottom Layer, On Slab, Green, 9" x 9"
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	Yes	No	No
	Color	Beige	Black	Green	Black
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	14.4	2.5	1.6	0.3
	% Other	ND	ND	ND	ND
	% Total Asbestos	14.4	2.5	1.6	0.3
Other Materials Present	% Organic	37.1	86.8	32.3	83.5
	% Carbonates	34.1	0.6	51.6	13.5
	% Other Inorganic	14.4	10.1	14.5	2.7

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

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Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/08/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-39	5197-WOS-39	5197-WOS-42	5197-WOS-43
Layer Number		1	2		
Lab ID Number		2899371	2899371	2899374	2899375
Sample Location		1st Floor, Room 26, Floor, On Slab, Gray 9" x 9", On Black Mastic	1st Floor, Room 26, Floor, On Slab, Gray 9" x 9", On Black Mastic	1st Floor, Room 69, Sink, On Metal Basin, White	1st Floor, Room 72, Sink, On Metal Basin, White
Sample Description		Floor Tile & Mastic (Tile Layer)	Floor Tile & Mastic (Mastic Layer)	Anti-Sweat Tar	Anti-Sweat Tar
Analytical Method		NOB Tem	NOB Tem	NOB Tem	NOB Tem
Appearance	Layered	No	No	No	No
	Homogenous	Yes	Yes	Yes	Yes
	Fibrous	No	Yes	No	No
	Color	Tan	Black	White	White
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	15.3	0.7	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	15.3	0.7	ND	ND
Other Materials Present	% Organic	37.3	76.8	38.5	42.7
	% Carbonates	32.2	16.2	30.8	26.2
	% Other Inorganic	15.2	6.3	30.7	31.1

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Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/27/2023
Date Analyzed : 03/08/2023
Analyzed By : Fahrudin Lalic
Signature :
Analytical Method : NYS-DOH 198.4
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-WOS-44	5197-WOS-45
Layer Number			
Lab ID Number		2899376	2899377
Sample Location		1st Floor, Room 70, Sink, On Metal Basin, Black	1st Floor, Room 74, Sink, On Metal Basin, Black
Sample Description		Anti-Sweat Tar	Anti-Sweat Tar
Analytical Method		NOB Tem	NOB Tem
Appearance	Layered	No	No
	Homogenous	Yes	Yes
	Fibrous	No	No
	Color	Black	Black
Asbestos Content	% Amosite	ND	ND
	% Chrysotile	1.4	14.7
	% Other	ND	ND
	% Total Asbestos	1.4	14.7
Other Materials Present	% Organic	25.1	42.1
	% Carbonates	69.4	28.4
	% Other Inorganic	4.1	14.8

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AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

CLIENT: Clark Patterson Lee
ADDRESS: 50 Front Street, Suite 202
Newburgh, NY 12550

CONTACT: Lauren Tarsio
PROJECT ID: South Orangetown CSD
160 Van Wyck Rd, Blauvelt NY 10913
PROJECT # : 23-5197

SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample	HM#	Floor	Space Name/ID #	Location	Material
5197-WOS-16		1	ROOM 74	ABOVE SUSPENDED CEILING, ON SHEETROCK	JOINT COMPOUND
5197-WOS-17		1	ROOM 72	WALL	SHEETROCK
5197-WOS-18		1	ROOM 69	WALL	SHEETROCK
5197-WOS-19		1	GYM	CORRIDOR, LOWER WALL	GLAZED BLOCK & MORTAR
5197-WOS-20		1	CORRIDOR	BY ROOM 57, WALL	GLAZED BLOCK & MORTAR
5197-WOS-21		1	ROOM 57	PERIMETER WALL	BRICK & MORTAR
5197-WOS-22		1	ROOM 32	PERIMETER WALL	BRICK & MORTAR
5197-WOS-23		1	ROOM 104	BATHROOM, ON SHEETROCK WALL	CERAMIC WALL TILE, GROUT, ADHESIVE
5197-WOS-24		1	ROOM 101	BATHROOM, ON SHEETROCK WALL	CERAMIC WALL TILE, GROUT, ADHESIVE
5197-WOS-25	2899361	1	ROOM 104	ON SHEETROCK WALL, BEIGE, 4 INCH	COVEBASE MOLDING & ADHESOVE
5197-WOS-26	2899362	1	ROOM 72	ON SHEETROCK WALL, BEIGE, 4 INCH	COVEBASE MOLDING & ADHESOVE
5197-WOS-27	2899363	1	ROOM 59	CEILING, 1'X1' DOTTED	CEILING TILE & GLUE DAB
5197-WOS-28	2899364	1	ROOM 66	ABOVE SUSPENDED CEILING, CEILING, 1'X1' DOTTED	CEILING TILE & GLUE DAB
5197-WOS-29	2899365	1	ROOM 66	SUSPENDED CEILING, 2'X2' FISSURE	CEILING TILE
5197-WOS-30	2899366	1	ROOM 68	SUSPENDED CEILING, 2'X2' FISSURE	CEILING TILE

Comments:

SUBMITTED BY:

DATE: 02/27/23

RECEIVED BY:

FEB 27'23 19:18

DATE:

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

CLIENT: Clark Patterson Lee
ADDRESS: 50 Front Street, Suite 202
Newburgh, NY 12550

CONTACT: Lauren Tarsio
PROJECT ID: South Orangetown CSD
160 Van Wyck Rd, Blauvelt NY 10913
PROJECT # : 23-5197

SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample	HM#	Floor	Space Name/ID #	Location	Material
5197-WOS-31		1	ROOM 21	BATHROOM, FLOOR	CERAMIC FLOOR TILE, GROUT, SETTING BED
5197-WOS-32		1	ROOM 32	BATHROOM, FLOOR	CERAMIC FLOOR TILE, GROUT, SETTING BED
5197-WOS-33		1	ROOM 101	BATHROOM, FLOOR	CERAMIC FLOOR TILE, GROUT, SETTING BED
5197-WOS-34		1	ROOM 104	BATHROOM, FLOOR	CERAMIC FLOOR TILE, GROUT, SETTING BED
5197-WOS-35	2899367	1	ROOM 70	FLOOR, ON 9"X9" FLOOR TILE, 12"X12" WHITE SPECK	FLOOR TILE & MASTIC
5197-WOS-36	2899368	1	ROOM 70	FLOOR, ON 9"X9" FLOOR TILE, 12"X12" WHITE SPECK	FLOOR TILE & MASTIC
5197-WOS-37	2899369	1	ROOM 57	FLOOR, ON SLAB, TAN, 9"X9"	FLOOR TILE & MASTIC
5197-WOS-38	2899370	1	ROOM 70	FLOOR, BOTTOM LAYER, ON SLAB, GREEN, 9"X9	FLOOR TILE & MASTIC
5197-WOS-39	2899371	1	ROOM 26	FLOOR, ON SLAB, GRAY 9"X9", ON BLACK MASTIC	FLOOR TILE & MASTIC
5197-WOS-40	2899372	1	ROOM 15	SINK, ON METAL BASIN, GRAY	ANTI-SWEAT TAR
5197-WOS-41	2899373	1	ROOM 57	SINK, ON METAL BASIN, GRAY	ANTI-SWEAT TAR
5197-WOS-42	2899374	1	ROOM 69	SINK, ON METAL BASIN, WHITE	ANTI-SWEAT TAR
5197-WOS-43	2899375	1	ROOM 72	SINK, ON METAL BASIN, WHITE	ANTI-SWEAT TAR
5197-WOS-44	2899376	1	ROOM 70	SINK, ON METAL BASIN, BLACK	ANTI-SWEAT TAR
5197-WOS-45	2899377	1	ROOM 74	SINK, ON METAL BASIN, BLACK	ANTI-SWEAT TAR

Comments:

SUBMITTED BY:

DATE: 02/27/23

RECEIVED BY:

DATE: FEB 27 '23 19:18

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

CLIENT: Clark Patterson Lee
ADDRESS: 50 Front Street, Suite 202
Newburgh, NY 12550

CONTACT: Lauren Tarsio
PROJECT ID: South Orangetown CSD
160 Van Wyck Rd, Blauvelt NY 10913
PROJECT # : 23-5197

SAMPLED BY: S.Talsma, Z.Timpano, J.Mages
DATE SAMPLED: 22-Feb-23

ANALYSIS METHOD: PLM, PLM-NOB, QTEM
TURN-AROUND TIME: Standard

Sample	HMA	Floor	Space Name/ID #	Location	Material
5197-WOS-01		1	HALLWAY	OUTSIDE ROOM 6, WALL	PLASTER
5197-WOS-02		1	HALLWAY	OUTSIDE ROOM 54, WALL	PLASTER
5197-WOS-03		1	HALLWAY	OUTSIDE ROOM 69, WALL	PLASTER
5197-WOS-04		1	HALLWAY	OUTSIDE ROOM 106, WALL	PLASTER
5197-WOS-05		1	ROOM 4	WALL	PLASTER
5197-WOS-06		1	ROOM 6	WALL	PLASTER
5197-WOS-07		1	ROOM 53	WALL	PLASTER
5197-WOS-08		1	ROOM 63	WALL	PLASTER
5197-WOS-09		1	ROOM 66	WALL	PLASTER
5197-WOS-10		1	ADDITION HALLWAY	ABOVE SUSPENDED CEILING, ON SHEETROCK	JOINT COMPOUND
5197-WOS-11		1	ADDITION HALLWAY	BY ROOM 2, ON SHEETROCK WALL	JOINT COMPOUND
5197-WOS-12		1	ROOM 69	ON SHEETROCK WALL	JOINT COMPOUND
5197-WOS-13		1	ROOM 70	ON SHEETROCK WALL	JOINT COMPOUND
5197-WOS-14		1	ROOM 71	ON SHEETROCK WALL	JOINT COMPOUND
5197-WOS-15		1	ROOM 72	ABOVE SUSPENDED CEILING, ON SHEETROCK	JOINT COMPOUND

Comments:

SUBMITTED BY:

DATE: 02/27/23

RECEIVED BY:

FEB 27 '23 19:18
DATE:

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/24/2023
Date Analyzed : 02/28/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-HS-01	5197-HS-01	5197-HS-02	5197-HS-02
Layer Number		1	2	1	2
Lab ID Number		2897914	2897914	2897915	2897915
Sample Location		Gymnasium, Wall, By Bleachers	Gymnasium, Wall, By Bleachers	Gymnasium, Wall, By Bleachers	Gymnasium, Wall, By Bleachers
Sample Description		CMU Block & Mortar (Block Layer)	CMU Block & Mortar (Mortar Layer)	CMU Block & Mortar (Block Layer)	CMU Block & Mortar (Mortar Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	No
	Homogenous	No	Yes	No	Yes
	Fibrous	No	No	No	No
	Color	Gray/Black	Gray	Gray/Black	Gray
Sample Treatment		Homogenized	None	Homogenized	None
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	15.0	30.0	15.0	30.0
	% Carbonates	30.0	25.0	30.0	20.0
	% Other	ND	ND	ND	ND
	% Unidentified	55.0	45.0	55.0	50.0

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Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
These Results Can Not Be Used To Claim That NOB Items Tested Are Non-Asbestos Containing. Overall Lab Accuracy ± 17%. Samples received in acceptable condition unless otherwise noted.
AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Eastern Analytical Services, Inc.

Bulk Sample Results

RE: CPN 23-5197 - Clark Patterson Lee - South Orangetown CSD - 160 Van Wyck Road - Blauvelt, NY

Date Collected : 02/22/2023
Collected By : S. Talsma/Z. Timpano/J. Mages
Date Received : 02/24/2023
Date Analyzed : 02/28/2023
Analyzed By : George Htay
Signature :
Analytical Method : NYS-DOH 198.1
NVLAP Lab Code : 101646-0
NYS Lab No. 10851

Client: QuES&T, Inc.
1376 Route 9
Wappingers Falls, NY 12590

Sample ID Number		5197-HS-03	5197-HS-03	5197-HS-04	5197-HS-04
Layer Number		1	2	1	2
Lab ID Number		2897916	2897916	2897917	2897917
Sample Location		Gymnasium, Wall, Behind Bleachers	Gymnasium, Wall, Behind Bleachers	Gymnasium, Wall, Behind Bleachers	Gymnasium, Wall, Behind Bleachers
Sample Description		Glazed CMU Block & Mortar (Block Layer)	Glazed CMU Block & Mortar (Mortar Layer)	Glazed CMU Block & Mortar (Block Layer)	Glazed CMU Block & Mortar (Mortar Layer)
Method of Quantification		Scanning Option	Scanning Option	Scanning Option	Scanning Option
Appearance	Layered	No	No	No	No
	Homogenous	Yes	No	Yes	No
	Fibrous	No	No	No	No
	Color	Beige	Gray/White	Beige	Gray/White
Sample Treatment		None	Homogenized	None	Homogenized
Asbestos Content	% Amosite	ND	ND	ND	ND
	% Chrysotile	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Total Asbestos	ND	ND	ND	ND
Other Fibrous Materials Present	% Fibrous Glass	ND	ND	ND	ND
	% Cellulose	ND	ND	ND	ND
	% Other	ND	ND	ND	ND
	% Unidentified	ND	ND	ND	ND
Non-Fibrous Materials Present	% Silicates	25.0	25.0	30.0	25.0
	% Carbonates	30.0	30.0	30.0	25.0
	% Other	ND	ND	ND	ND
	% Unidentified	45.0	45.0	40.0	50.0

Results Applicable To Those Items Tested. Report Cannot be Reproduced, Except Entirely, Without Written Approval of the Laboratory. ND = Not Detected. Reporting Limit is <1%.
Liability Limited To Cost Of Analysis. This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
These Results Can Not Be Used To Claim That NOB Items Tested Are Non-Asbestos Containing. Overall Lab Accuracy ± 17%. Samples received in acceptable condition unless otherwise noted.
AIHA LAP, LLC No. 100263 Rhode Island DOH No. AAL-072 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AL-709936

Quality Environmental Solutions and Technologies, Inc.
Bulk Sample Chain of Custody

CLIENT: **Clark Patterson Lee**

ADDRESS: **50 Front Street, Suite 202**
Newburgh, NY 12550

CONTACT: **Lauren Tarsio**

PROJECT ID: **South Orangetown CSD**
160 Van Wyck Rd, Blauvelt NY 10913

PROJECT # : **23-5197**

SAMPLED BY: **S.Talsma, Z.Timpano, J.Mages**

DATE SAMPLED: **22-Feb-23**

ANALYSIS METHOD: **PLM, PLM-NOB, QTEM**

TURN-AROUND TIME: **Standard**

	Sample	HM#	Floor	Space Name/ID #	Location	Material
2897914	5197-HS-01			Gymnasium	Wall, by Bleachers	CMU Block & Mortar (Separate Layers)
2897915	5197-HS-02			Gymnasium	Wall, by Bleachers	CMU Block & Mortar (Separate Layers)
2897916	5197-HS-03			Gymnasium	Wall, Behind Bleachers	Glazed CMU Block & Mortar (Separate Layers)
2897917	5197-HS-04			Gymnasium	Wall, Behind Bleachers	Glazed CMU Block & Mortar (Separate Layers)
	* AS LABELED ON PAPERWORK					
	INITIAL/DATE MP 2/27/23					

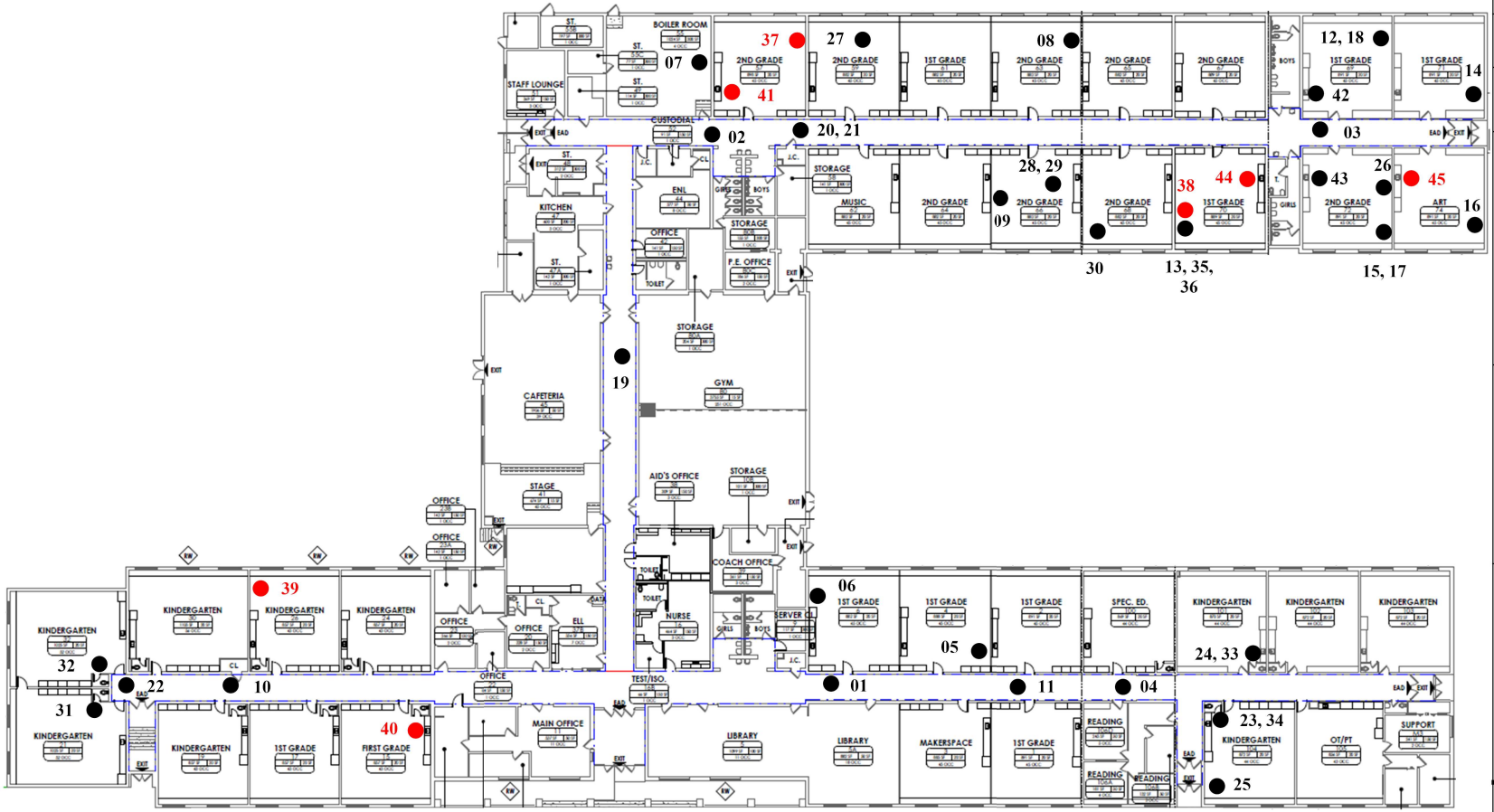
Comments:

SUBMITTED BY:

DATE: 2/24/23

RECEIVED BY:

FEB 24 '23 19:15
DATE:



ACM LEGEND: (Please refer asbestos report for details)	
●	Non-ACM Sample Location
●	ACM Sample Location

N

Drawing Not to Scale

This Drawing is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project.

Date: 3/17/2023	**Version #** 1
Issued For: Asbestos Survey	
QuES&T Project #: 23-5197	
Project Manager: T. McAfee	**Prepared By:** ZT

QuES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
Phone: (845) 298- 6031
Fax: (845) 298-6251

CLIENT

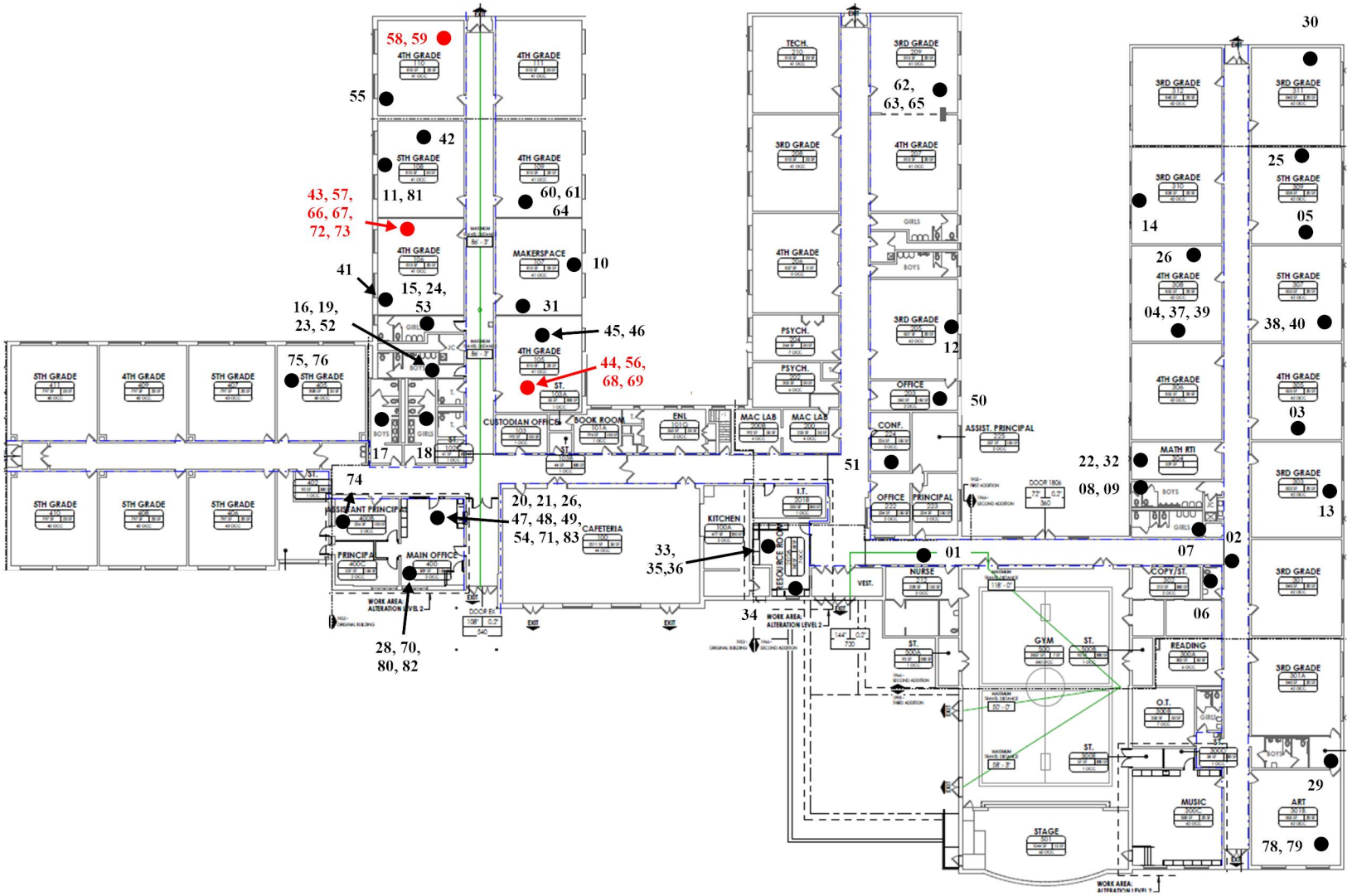
Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

PROJECT LOCATION

South Orangetown Central School District
160 Van Wyck Road,
Blauvelt, NY 10913

William .O Schaefer Interior Sample Locations

SL-01



ACM LEGEND: (Please refer asbestos report for details)	
●	Non-ACM Sample Location
●	ACM Sample Location

N

Drawing Not to Scale

This Drawing is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project.

Date: 4/20/2023	Version # 1
Issued For: Asbestos Survey	
QuES&T Project # : 23-5197	
Project Manager: T. McAfee	Prepared By: ZT

QuES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
Phone: (845) 298- 6031
Fax: (845) 298-6251

CLIENT

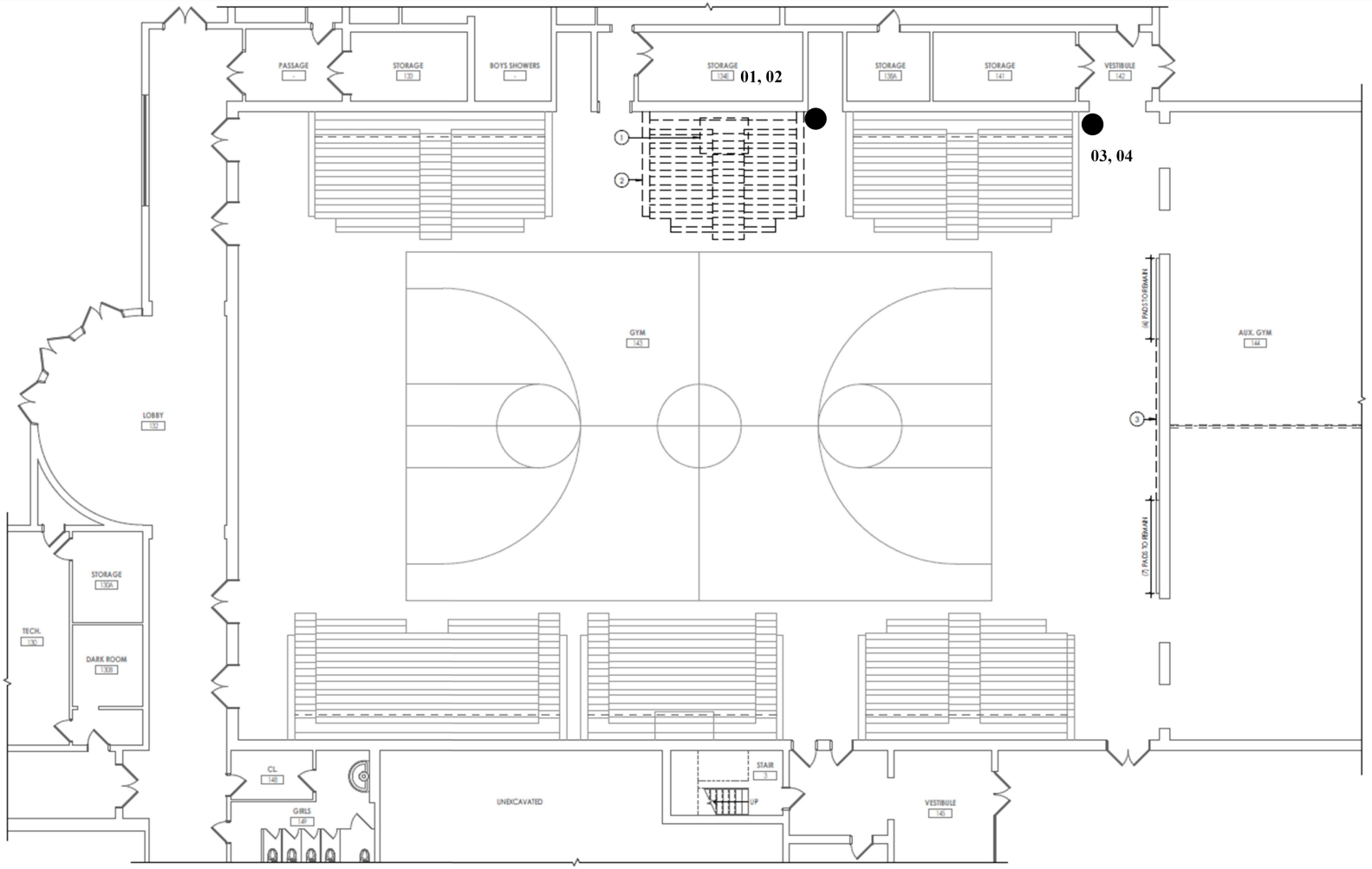
Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

PROJECT LOCATION

South Orangetown Central School District
160 Van Wyck Road,
Blauvelt , NY 10913

Cottage Lane ES Interior Sample Locations

SL-01



1 A100 **DEMOLITION FLOOR PLAN**
1/8" = 1'-0"

ACM LEGEND: (Please refer asbestos report for details)	
●	Non-ACM Sample Location
●	ACM Sample Location

N

Drawing Not to Scale
This Drawing is not intended to be used as the sole basis for soliciting pricing for asbestos abatement. An abatement plan, specification, drawing and/or variances should be developed to identify scope, timing, phasing and remediation means & methods for any asbestos project.

Date: 3/23/2023	**Version #** 1
Issued For: Asbestos Survey	
QuES&T Project #: 23-5197	
Project Manager: T. McAfee	**Prepared By:** ZT

QuES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
Phone: (845) 298- 6031
Fax: (845) 298-6251

CLIENT

Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY 12550

PROJECT LOCATION

South Orangetown Central School District
160 Van Wyck Road,
Blauvelt, NY 10913

Tappan Zee High School
Interior
Sample Locations

SL-01

QuES&T
Quality Environmental Solutions & Technologies, Inc.

Appendix C:
LEAD BASED PAINT PHOTOS
& XRF ANALYTICAL DATA

Photo 1.0 – Example of lead containing decorative block painted white in the 300s wing at Cottage Lane ES.

Photo 2.0 – Example of lead containing decorative block painted green in the Gym Hallway.

Photo 3.0 – Example of tan lead containing decorative block at William O. Schaefer.

Quality Environmental Solutions & Technologies
1376 Route 9
Wappingers Falls, NY 12590
(845) 298-6031

Limited XRF LBP Testing

Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY, 12550
23-5197

Sample	***Building/Address***	***Interior/Exterior***	***Floor***	***Space ID#***	***Space/Room/Description***	***Object***	***Component***	***Substrate***	***Color***	***Condition***	***Result***	***Pb Concentration (mg/cm2)***
1	Shutter Calibration											2.43
2	NIST (<0.01)										Negative	0
3	***NIST (1.04 +/- 0.06)***										***Positive***	1
4	William O. Schaefer Elementary School	Interior	1st		Classroom 72	Wall		Sheetrock	Tan	Fair	Negative	0
5	William O. Schaefer Elementary School	Interior	1st		Classroom 72	Wall	CBM	Vinyl	Tan	Fair	Negative	0.06
6	William O. Schaefer Elementary School	Interior	1st		Classroom 69	Window	Case	Metal	Tan	Fair	Negative	0.03
7	William O. Schaefer Elementary School	Interior	1st		Classroom 69	UV		Metal	White	Fair	Negative	0
8	William O. Schaefer Elementary School	Interior	1st		Classroom 69	Door	Case	Metal	White	Fair	Negative	0
9	William O. Schaefer Elementary School	Interior	1st		Hallway	Wall	Upper	Sheetrock	White	Fair	Negative	0
10	William O. Schaefer Elementary School	Interior	1st		Hallway	Wall	Lower	Ceramic Wall Tile	Tan	Intact	Negative	0.15
11	William O. Schaefer Elementary School	Interior	1st		Classroom 66	Door	Case	Metal	White	Fair	Negative	0
12	William O. Schaefer Elementary School	Interior	1st		Classroom 66	Wall		Plaster	Grey	Fair	Negative	0
13	William O. Schaefer Elementary School	Interior	1st		Classroom 66	Casework		Wood	White	Fair	Negative	0
14	William O. Schaefer Elementary School	Interior	1st		Hallway	Wall	Upper	Plaster	White	Fair	Negative	-0.03
15	William O. Schaefer Elementary School	Interior	1st		Hallway	Wall	Lower	Deco Block	Tan	Intact	***Positive***	2.8
16	William O. Schaefer Elementary School	Interior	1st		Classroom 57	Window	Case	Metal	Red	Fair	Negative	0.01
17	William O. Schaefer Elementary School	Interior	1st		Classroom 57	UV		Metal	White	Fair	Negative	0
18	William O. Schaefer Elementary School	Interior	1st		Classroom 51	Wall		CMU	Tan	Fair	Negative	0
19	William O. Schaefer Elementary School	Interior	1st		Hallway	UV	Cover	Metal	Tan	Fair	Negative	0.09
20	William O. Schaefer Elementary School	Interior	1st		Classroom 32	Wall		Plaster	Yellow	Fair	Negative	0.02
21	William O. Schaefer Elementary School	Interior	1st		Classroom 32 Bathroom	Floor		Ceramic Floor Tile	Green	Intact	Negative	0
22	William O. Schaefer Elementary School	Interior	1st		Classroom 32 Bathroom	Wall	Cover	Ceramic Wall Tile	Green	Intact	Negative	0.1
23	William O. Schaefer Elementary School	Interior	1st		Classroom 21 Bathroom	Wall	Upper	Plaster	Blue	Fair	Negative	0
24	William O. Schaefer Elementary School	Interior	1st		Classroom 21 Bathroom	Wall	Lower	Plaster	Yellow	Fair	Negative	0
25	William O. Schaefer Elementary School	Interior	1st		Room 23	Wall		Plaster	Grey	Fair	Negative	0
26	William O. Schaefer Elementary School	Interior	1st		Room 23		CBM	Vinyl	Black	Intact	Negative	0
27	William O. Schaefer Elementary School	Interior	1st		Classroom 102 Bathroom	Floor		Ceramic Floor Tile	Grey	Intact	Negative	0
28	William O. Schaefer Elementary School	Interior	1st		Classroom 102 Bathroom	Toilet		Porcelain	White	Intact	Negative	0.02
29	NIST (<0.01)										Negative	0
30	***NIST (1.04 +/- 0.06)***										***Positive***	1.1

Conducted: 02/22/23-02/23/2023
Niton XRF Technician(s): Jon Mages

Quality Environmental Solutions & Technologies
1376 Route 9
Wappingers Falls, NY 12590
(845) 298-6031

Limited XRF LBP Testing

Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY, 12550
23-5197

Sample	Building/Address	Interior/Exterior	Floor	Space ID#	Space/Room/Description	Object	Component	Substrate	Color	Condition	Result	Pb Concentration (mg/cm2)
1	Shutter Calibration											2.43
2	NIST (<0.01)										Negative	0
3	***NIST (1.04 +/- 0.06)***										***Positive***	0.9
4	Cottage Lane Elementary School	Interior	1st		Room 409	Wall		CMU	White	Fair	Negative	0
5	Cottage Lane Elementary School	Interior	1st		Room 409		Covebase	Vinyl	Tan	Fair	Negative	0
6	Cottage Lane Elementary School	Interior	1st		Room 404	Window	Case	Metal	Red	Fair	Negative	0
7	Cottage Lane Elementary School	Interior	1st		Room 404	UV		Metal	White	Fair	Negative	0
8	Cottage Lane Elementary School	Interior	1st		Room 404	Door	Case	Metal	White	Fair	Negative	0
9	Cottage Lane Elementary School	Interior	1st		Hallway	Wall		CMU	White	Fair	Negative	0
10	Cottage Lane Elementary School	Interior	1st		Hallway	Wall	Stripe	CMU	Red	Fair	Negative	0
11	Cottage Lane Elementary School	Interior	1st		Boys Bathroom	Wall		Ceramic Wall Tile	White	Fair	Negative	0.01
12	Cottage Lane Elementary School	Interior	1st		Boys Bathroom	Floor		Ceramic Floor Tile	Grey	Fair	Negative	0
13	Cottage Lane Elementary School	Interior	1st		Boys Bathroom	Ceiling		Plaster	White	Fair	Negative	0.06
14	Cottage Lane Elementary School	Interior	1st		Boys Bathroom	Sink		Porcelain	White	Fair	Negative	0.04
15	Cottage Lane Elementary School	Interior	1st		Boys Bathroom	Toilet		Porcelain	White	Fair	Negative	0.04
16	Cottage Lane Elementary School	Interior	1st		Room 102B	Wall		Sheetrock	Grey	Fair	Negative	0
17	Cottage Lane Elementary School	Interior	1st		Room 102B	Door	Case	Metal	Grey	Fair	Negative	0
18	Cottage Lane Elementary School	Interior	1st		Room 102A	Wall		Sheetrock	Tan	Fair	Negative	0
19	Cottage Lane Elementary School	Interior	1st		Room 102A	UV		Metal	Tan	Fair	Negative	0
20	Cottage Lane Elementary School	Interior	1st		Room 105	Window	AC Panel	Wood	Red	Fair	Negative	0
21	Cottage Lane Elementary School	Interior	1st		Room 105	Door		Metal	Red	Fair	Negative	0
22	Cottage Lane Elementary School	Interior	1st		Hallway	Radiator		Metal	White	Fair	Negative	-0.57
23	Cottage Lane Elementary School	Interior	1st		Room 200	Wall		CMU	Grey	Fair	Negative	0
24	Cottage Lane Elementary School	Interior	1st		Room 207	UV		Metal	White	Fair	Negative	0
25	Cottage Lane Elementary School	Interior	1st		Room 207	Wall	CBM	Vinyl	Black	Fair	Negative	0
26	Cottage Lane Elementary School	Interior	1st		Hallway	Wall	Lower	Deco Block	White	Fair	Negative	0
27	Cottage Lane Elementary School	Interior	1st		Gym Hallway	Wall	Upper	Plaster	Blue	Fair	Negative	0
28	***Cottage Lane Elementary School***	***Interior***	***1st***		***Gym Hallway***		***Lower***	***Deco Block***	***Green***	***Fair***	***Positive***	4.1
29	Cottage Lane Elementary School	Interior	1st		Girls 300 Bathroom	Ceiling		Plaster	White	Fair	Negative	0
30	Cottage Lane Elementary School	Interior	1st		Room 311	Wall	CBM	Vinyl	White	Fair	Negative	0
31	Cottage Lane Elementary School	Interior	1st		Room 311	Wall		Sheetrock	Grey	Fair	Negative	0
32	Cottage Lane Elementary School	Interior	1st		Hallway Outside 311	Wall	Lower	Ceramic Wall Tile	White	Fair	Negative	0.03
33	***Cottage Lane Elementary School***	***Interior***	***1st***		***Hallway Outside 301***	***Wall***	***Lower***	***Deco Block***	***White***	***Fair***	***Positive***	3.4
34	NIST (<0.01)										Negative	0
35	***NIST (1.04 +/- 0.06)***										Positive	1.1

Conducted: 02/22/23-02/23/2023
Niton XRF Technician(s): Jon Mages

Quality Environmental Solutions & Technologies
1376 Route 9
Wappingers Falls, NY 12590
(845) 298-6031

Limited XRF LBP Testing

Clark Patterson Lee
50 Front Street, Suite 202
Newburgh, NY, 12550
23-5197

Sample	*Building/Address*	*Interior/Exterior*	*Floor*	*Space ID#*	*Space/Room/Description*	*Object*	*Component*	*Substrate*	*Color*	*Condition*	*Result*	*Pb Concentration (mg/cm2)*
1	Shutter Calibration											2.77
2	NIST (<0.01)										Negative	0
3	***NIST (1.04 +/- 0.06)***										***Positive***	1.1
4	Tappan Zee High School	Interior	Lower Level		Gym	Wall	Lower	Deco Block	Tan	Fair	Negative	0
5	Tappan Zee High School	Interior	Lower Level		Gym	Wall	Covebase	Metal	Grey	Fair	Negative	-0.31
6	Tappan Zee High School	Interior	Lower Level		Gym	Wall	Lower	CMU	Tan	Fair	Negative	0
7	Tappan Zee High School	Interior	Lower Level		Gym	Wall	Middle	CMU	Red	Fair	Negative	0.03
8	Tappan Zee High School	Interior	Lower Level		Gym	Wall	Upper	CMU	Grey	Fair	Negative	0
9	NIST (<0.01)										Negative	0
10	***NIST (1.04 +/- 0.06)***										***Positive***	0.9

Conducted: 02/22/23-02/23/2023
Niton XRF Technician(s): Jon Mages

Appendix D:
PERSONNEL LICENSES & CERTIFICATIONS

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9, Wappinger Falls, NY, 12590

License Number: 29085
License Class: RESTRICTED
Date of Issue: 01/06/2023
Expiration Date: 01/31/2024
Duly Authorized Representative: Lawrence J Holzapfel

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

NEW YORK STATE

MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISE ("MWBE")

CERTIFICATION

Empire State Development's Division of Minority and Women's Business Development grants a

Women Business Enterprise (WBE)

pursuant to New York State Executive Law, Article 15-A to:

Quality Environmental Solutions & Technologies Inc.

Certification Awarded on: March 28, 2019
Expiration Date: March 28, 2024
File ID#: WBE- 49952

NEW YORK STATE OF OPPORTUNITY. Division of Minority and Women's Business Development

A Division of Empire State Development

United States Environmental Protection Agency

This is to certify that

Quality Environmental Solutions & Technologies, Inc.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires November 09, 2024

LBP-119213-2

Certification #

November 09, 2021

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

United States Environmental Protection Agency

This is to certify that

Quality Environmental Solutions & Technologies, Inc.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires December 01, 2026

NAT-119213-3

Certification #

November 09, 2021

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2023
Issued April 01, 2022

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. PAUL STASCAVAGE
EAS INC - EASTERN ANALYTICAL SERVICES INC
4 WESTCHESTER PLAZA
ELMSFORD, NY 10523-1610

NY Lab Id No: 10851

Is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual
Lead in Dust Wipes	EPA 7000B
Lead in Paint	EPA 7000B

Sample Preparation Methods

	EPA 3050B

Serial No.: 64479

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

SHANNON D TALSMA
CLASS(EXPIRES)
C ATEC(10/23) D INSP(10/23)
H PM (10/23)

CERT# 16-07559
DMV# 963348232

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 006597213 59

EYES GRN
HAIR BLN
HGT 6' 00"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

JONATHAN R MAGES
CLASS(EXPIRES)
C ATEC(01/24) D INSP(01/24)
H PM (01/24) I PD (01/24)

CERT# 18-53364
DMV# 345648492

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 006771737 16

EYES HAZ
HAIR BRO
HGT 5' 10"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

ZACHARY TIMPANO
CLASS(EXPIRES)
C ATEC(11/23) D INSP(11/23)
H PM (11/23)

CERT# 17-42304
DMV# 131470793

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 006597173 16

EYES GRN
HAIR BRO
HGT 5' 11"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

KEVIN M SOLTYSIAK
CLASS(EXPIRES)
C ATEC(12/23) D INSP(12/23)
H PM (12/23)

CERT# 22-05115
DMV# 287494790

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 006451168 62

EYES HAZ
HAIR BRO
HGT 5' 10"

IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240

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SECTION 004000
FORM OF PROPOSAL - GENERAL CONSTRUCTION

DATED: _____

Bid from: Name: _____
Address: _____
_____
_____
Phone No.: _____
Fax No.: _____

Bid to: South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

Bid for: 2022 BOND PROJECT - PHASE 1
GENERAL CONSTRUCTION (GC)

BASE BID

We have examined and fully understand the requirements and intent of the Bidding and Contract Documents and all subsequent addenda as listed below, and propose to provide all materials, plant, labor, supplies, equipment, transportation and other facilities necessary ,or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Multiple Contract Summary for the base bid lump sum of:

Total Lump Sum Base Bid (in numbers): $ _____

Total Lump Sum Base Bid (in words): _____

_____

ADDENDA RECEIVED

Any addenda issued by the Architect, mailed or delivered, to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within ten (10) days after a written Notice of Award, if offered within forty-five (45) days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5 %) of the Base Bid.

In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

TIME OF COMPLETION

It is agreed by the undersigned that after receipt of a Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, he or she will start work within ten (10) consecutive calendar days of the notice to proceed and fully complete the work as indicated in the Contract Documents.

ALLOWANCES

The Bidder acknowledges that all Allowances, pursuant to their Contract, have been included in the Base Bid. Should the following allowance(s) exceed ,or be less than, the cost of selected items, the difference in cost shall be added to, or credited to, the Owner's Contract. Refer to Specification Section 012100 "Allowances" for description of each allowance.

	Allowance Amount:
General Construction; GC-01	$200,000.00

ALTERNATE BIDS

Enter a whole dollar amount, even if it is zero ($ 0), for each Alternate Bid. Circle either "ADD to" or "DEDUCT from" for each Alternate Bid. If neither is circled, "DEDUCT from" will be assumed. Do not leave any Alternate Bid amount blank. If any Alternate Bid amount is left blank, it will be assumed the Bidder will provide that Alternate Bid for no change, neither increase to nor decrease from, the Base Bid amount.

Alternate Bid No. GC-01: WOS Casework Infill.
ADD to | **DEDUCT from** the base bid a total sum of:
(in numbers) $ _____
(in words) _____

Alternate Bid No. GC-02: CLE Casework Infill.
ADD to | **DEDUCT from** the base bid a total sum of:
(in numbers) $ _____
(in words) _____

Alternate Bid No. GC-03: WOS Teaching Wall Casework.
ADD to | **DEDUCT from** the base bid a total sum of:
(in numbers) $ _____
(in words) _____

Alternate Bid No. GC-04: WOS Window Wall Casework.
(in numbers) $ _____
(in words) _____

Alternate Bid No. GC-05: CLE Storage Closets.
(in numbers) $ _____
(in words) _____

Alternate Bid No. GC-06: Flooring.
(in numbers) $ _____
(in words) _____

UNIT PRICES

Refer to Specification Section 012200 - Unit Prices, for a description of each item. Should the value of the Work for this project be increased or decreased due to changes in design or based on field conditions, the Bidder agrees that the following unit prices will be used as the basis for an increase or decrease in the Contract amount. The difference between the "add" unit price and the "deduct" unit price for any item listed below shall not be greater than 20% of the "add" unit price.

1. **GENERAL CONSTRUCTION (GC)**
   a. GC- 1 : Labor to remove ceiling tile and install new from attic stock, purchased through base bid:
   ADD $ _____ Per 4 SF / **DEDUCT** $ _____Per 4 SF

BID SECURITY

Bid Security in the form of a Certified or Cashier's Check or a Bid Bond in the form required by the Contract Documents is attached to, and made a part of, this Proposal.

IRAN DIVESTMENT ACT CERTIFICATION

Contractor to submit with the bid, Iran Divestment Act Certification which hereto is made a part of this Form of Proposal and is attached at the end of this Form of Proposal.

REPRESENTATIONS

By submitting this Proposal, the Bidder represents and certifies to the Owner and the Architect that:

2. It has examined the Contract Documents, the site of the proposed Work, is familiar with the local conditions at the place where the Work is to be performed and fully comprehends the requirements and intent of the plans and specifications for this Project in accordance with the drawings, specifications and other Contract Documents prepared by CPL, the Owners Consultant, for this Project.
3. It has examined and reviewed, where applicable, all information and data in the Contract Documents related to existing underground facilities at or contiguous to the site. Bidder shall require of the Owner or Architect no further investigations, explorations, tests or reports with respect to such underground facilities in order for the Bidder to perform the Work of the Proposal within the Contract Time and in accordance with the Contract Documents.
4. It has given notice to the Architect, as required by the Contract Documents of any and all discrepancies it has discovered and accepts the resolution of those discrepancies offered by the Architect.
5. Pursuant to New York State General Municipal Law section 103-d, 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 knowledge and belief:
   a. The prices in this bid have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with 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 be knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or competitor; and

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

6. The proposal is based upon the materials, equipment and systems required by the Contract Documents, without exception, unless otherwise set forth in this Proposal in detail.

CHANGE ORDERS

We propose and agree that the above lump sum shall be adjusted for changes in the Contract Work not included in unit prices by addition of the following costs:

7. Profit and overhead as permitted in the GENERAL CONDITIONS.

NON-COLLUSIVE BIDDING 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 to the best of knowledge and belief:

8. 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 with any competitor;
9. 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 to any competitor; and
10. 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.

ACCEPTANCE

When this Proposal is accepted, the undersigned agrees to enter into a Contract with the Owner as provided in the Form of Agreement.

AFFIRMS

The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

TYPE OF BUSINESS

The undersigned hereby represents that it is a [ ] Corporation, [ ] Partnership, [ ] Individual. If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under the laws of New York State and it is authorized to do business in this State.

PLACE OF BUSINESS

The following is the name and address of the person to whom all notices required in connection with this Proposal may be telephoned, mailed, or delivered.

Name of Contact Person:	
Name of Business or Firm:	
Address:	
Address:	
Telephone:	Fax:
Email Address:	
FEIN: Federal Employer Identification No.:	

EXECUTION OF CONTRACT

When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

ASBESTOS

The bidder certifies that no asbestos or asbestos-containing materials will be incorporated into the Work of this Contract.

AUTHORIZED SIGNATURES FOR PROPOSALS

Signature:	
Name:	
	(Typed or Printed)
Title:	
Firm:	
	(Legal Name of Person, Single Proprietorship, Partnership, or Corporation)
Date:	

(if Corporation, provide seal above)

IRAN DIVESTMENT ACT CERTIFICATION

By submission of this bid, (DL & AV Equip 1315), or by assuming the responsibility of a Contract awarded hereunder, each bidder and each person signing on behalf of any bidders, 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/contractor/assignee is not on the "Entities Determined To Be Non-Responsive Bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list created pursuant to paragraph (b) subdivision 3 of section 165-a of the New York State Finance Law and posted on the OGS website at www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, Bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended. (See Article 10 in the Instructions to Bidders.)

NAME OF COMPANY: _____

(Individual or Legal Name of Firm or Corporation)

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

BY: _____

(Signature of Representative of Firm or Corporation)

NAME: _____ TITLE: _____

Please Print *Please Print*

DATED: _____

SWORN to before me this

_____ day of _____ 20 ___

Notary Public: _____

SEXUAL HARASSMENT POLICY/TRAINING AFFIRMATION

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 sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees.

Contractor Information:

Name of Contractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

Contractor Website: _____

_____ _____ _____

(Signature of Contractor) *(Title)* *(Date)*

END OF SECTION

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SECTION 004001
FORM OF PROPOSAL - MECHANICAL CONSTRUCTION

DATED: _____

Bid from: Name: _____

Address: _____

_____

_____

Phone No.: _____

Fax No.: _____

Bid to: South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

Bid for: 2022 BOND PROJECT - PHASE 1
MECHANICAL (HVAC) CONSTRUCTION (MC)

BASE BID

We have examined and fully understand the requirements and intent of the Bidding and Contract Documents and all subsequent addenda as listed below, and propose to provide all materials, plant, labor, supplies, equipment, transportation and other facilities necessary ,or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Multiple Contract Summary for the base bid lump sum of:

Total Lump Sum Base Bid (in numbers): $ _____

Total Lump Sum Base Bid (in words): _____

_____

ADDENDA RECEIVED

Any addenda issued by the Architect, mailed or delivered, to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within ten (10) days after a written Notice of Award, if offered within forty-five (45) days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5 %) of the Base Bid.

In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

TIME OF COMPLETION

It is agreed by the undersigned that after receipt of a Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, he or she will start work within ten (10) consecutive calendar days of the notice to proceed and fully complete the work as indicated in the Contract Documents.

ALLOWANCES

The Bidder acknowledges that all Allowances, pursuant to their Contract, have been included in the Base Bid. Should the following allowance(s) exceed ,or be less than, the cost of selected items, the difference in cost shall be added to, or credited to, the Owner's Contract. Refer to Specification Section 012100 "Allowances" for description of each allowance.

	Allowance Amount:
Mechanical Construction; MC-01	$250,000.00

ALTERNATE BIDS

Enter a whole dollar amount, even if it is zero ($ 0), for each Alternate Bid. Circle either "ADD to" or "DEDUCT from" for each Alternate Bid. If neither is circled, "DEDUCT from" will be assumed. Do not leave any Alternate Bid amount blank. If any Alternate Bid amount is left blank, it will be assumed the Bidder will provide that Alternate Bid for no change, neither increase to nor decrease from, the Base Bid amount.

Alternate Bid No. MC-01: Controls.

ADD to | **DEDUCT from** the base bid a total sum of:

(in numbers) $ _____

(in words) _____

Alternate Bid No. MC-02: WOS Fin Tube Covers.

ADD to | **DEDUCT from** the base bid a total sum of:

(in numbers) $ _____

(in words) _____

Alternate Bid No. MC-03: CLE Fin Tube Covers.

ADD to | **DEDUCT from** the base bid a total sum of:

(in numbers) $ _____

(in words) _____

UNIT PRICES

Refer to Specification Section 012200 - Unit Prices, for a description of each item. Should the value of the Work for this project be increased or decreased due to changes in design or based on field conditions, the Bidder agrees that the following unit prices will be used as the basis for an increase or decrease in the Contract amount. The difference between the "add" unit price and the "deduct" unit price for any item listed below shall not be greater than 20% of the "add" unit price.

1. **MECHANICAL WORK (MC)**

a. MC- 1 : Labor to remove ceiling tile and install new from attic stock, purchased through base bid::
ADD $ _____ Per 4 SF / **DEDUCT** $ _____ Per 4 SF

BID SECURITY

Bid Security in the form of a Certified or Cashier's Check or a Bid Bond in the form required by the Contract Documents is attached to, and made a part of, this Proposal.

IRAN DIVESTMENT ACT CERTIFICATION

Contractor to submit with the bid, Iran Divestment Act Certification which hereto is made a part of this Form of Proposal and is attached at the end of this Form of Proposal.

REPRESENTATIONS

By submitting this Proposal, the Bidder represents and certifies to the Owner and the Architect that:

2. It has examined the Contract Documents, the site of the proposed Work, is familiar with the local conditions at the place where the Work is to be performed and fully comprehends the requirements and intent of the plans and specifications for this Project in accordance with the drawings, specifications and other Contract Documents prepared by CPL, the Owners Consultant, for this Project.
3. It has examined and reviewed, where applicable, all information and data in the Contract Documents related to existing underground facilities at or contiguous to the site. Bidder shall require of the Owner or Architect no further investigations, explorations, tests or reports with respect to such underground facilities in order for the Bidder to perform the Work of the Proposal within the Contract Time and in accordance with the Contract Documents.
4. It has given notice to the Architect, as required by the Contract Documents of any and all discrepancies it has discovered and accepts the resolution of those discrepancies offered by the Architect.
5. Pursuant to New York State General Municipal Law section 103-d, 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 knowledge and belief:
    a. The prices in this bid have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with 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 be knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or competitor; and
    c. No attempt has been made or will be made by bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
6. The proposal is based upon the materials, equipment and systems required by the Contract Documents, without exception, unless otherwise set forth in this Proposal in detail.

CHANGE ORDERS

We propose and agree that the above lump sum shall be adjusted for changes in the Contract Work not included in unit prices by addition of the following costs:

7. Profit and overhead as permitted in the GENERAL CONDITIONS.

NON-COLLUSIVE BIDDING 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 to the best of knowledge and belief:

8. 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 with any competitor;
9. 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 to any competitor; and
10. 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.

ACCEPTANCE

When this Proposal is accepted, the undersigned agrees to enter into a Contract with the Owner as provided in the Form of Agreement.

AFFIRMS

The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

TYPE OF BUSINESS

The undersigned hereby represents that it is a [ ] Corporation, [ ] Partnership, [ ] Individual. If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under the laws of New York State and it is authorized to do business in this State.

PLACE OF BUSINESS

The following is the name and address of the person to whom all notices required in connection with this Proposal may be telephoned, mailed, or delivered.

Name of Contact Person:	
Name of Business or Firm:	
Address:	
Address:	
Telephone:	Fax:
Email Address:	
FEIN: Federal Employer Identification No.:	

EXECUTION OF CONTRACT

When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

ASBESTOS

The bidder certifies that no asbestos or asbestos-containing materials will be incorporated into the Work of this Contract.

AUTHORIZED SIGNATURES FOR PROPOSALS

Signature:	
Name:	
	(Typed or Printed)
Title:	
Firm:	
	(Legal Name of Person, Single Proprietorship, Partnership, or Corporation)
Date:	

(if Corporation, provide seal above)

IRAN DIVESTMENT ACT CERTIFICATION

By submission of this bid, (DL & AV Equip 1315), or by assuming the responsibility of a Contract awarded hereunder, each bidder and each person signing on behalf of any bidders, 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/contractor/assignee is not on the "Entities Determined To Be Non-Responsive Bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list created pursuant to paragraph (b) subdivision 3 of section 165-a of the New York State Finance Law and posted on the OGS website at www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, Bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended. (See Article 10 in the Instructions to Bidders.)

NAME OF COMPANY: _____

(Individual or Legal Name of Firm or Corporation)

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

BY: _____

(Signature of Representative of Firm or Corporation)

NAME: _____ TITLE: _____

Please Print *Please Print*

DATED: _____

SWORN to before me this

_____ day of _____ 20 ___

Notary Public: _____

SEXUAL HARASSMENT POLICY/TRAINING AFFIRMATION

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 sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees.

Contractor Information:

Name of Contractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

Contractor Website: _____

_____ _____ _____

(Signature of Contractor) *(Title)* *(Date)*

END OF SECTION

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SECTION 004002
FORM OF PROPOSAL - ELECTRICAL CONSTRUCTION

DATED: _____

Bid from: Name: _____
Address: _____
_____
_____
Phone No.: _____
Fax No.: _____

Bid to: South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

Bid for: 2022 BOND PROJECT - PHASE 1
ELECTRICAL CONSTRUCTION (EC)

BASE BID

We have examined and fully understand the requirements and intent of the Bidding and Contract Documents and all subsequent addenda as listed below, and propose to provide all materials, plant, labor, supplies, equipment, transportation and other facilities necessary ,or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Multiple Contract Summary for the base bid lump sum of:

Total Lump Sum Base Bid (in numbers): $ _____

Total Lump Sum Base Bid (in words): _____

_____

ADDENDA RECEIVED

Any addenda issued by the Architect, mailed or delivered, to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within ten (10) days after a written Notice of Award, if offered within forty-five (45) days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5 %) of the Base Bid.

In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

TIME OF COMPLETION

It is agreed by the undersigned that after receipt of a Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, he or she will start work within ten (10) consecutive calendar days of the notice to proceed and fully complete the work as indicated in the Contract Documents.

ALLOWANCES

The Bidder acknowledges that all Allowances, pursuant to their Contract, have been included in the Base Bid. Should the following allowance(s) exceed ,or be less than, the cost of selected items, the difference in cost shall be added to, or credited to, the Owner's Contract. Refer to Specification Section 012100 "Allowances" for description of each allowance.

	Allowance Amount:
Electrical Construction; EC-01	$160,000.00

ALTERNATE BIDS

Enter a whole dollar amount, even if it is zero ($ 0), for each Alternate Bid. Circle either "ADD to" or "DEDUCT from" for each Alternate Bid. If neither is circled, "DEDUCT from" will be assumed. Do not leave any Alternate Bid amount blank. If any Alternate Bid amount is left blank, it will be assumed the Bidder will provide that Alternate Bid for no change, neither increase to nor decrease from, the Base Bid amount.

Alternate Bid No. EC-01: CLE Storage Closets.
ADD to | **DEDUCT from** the base bid a total sum of:
(in numbers) $ _____
(in words) _____

Alternate Bid No. EC-02: CLE Data Cabling.
ADD to | **DEDUCT from** the base bid a total sum of:
(in numbers) $ _____
(in words) _____

Alternate Bid No. EC-03: WOS Data Cabling.
ADD to | **DEDUCT from** the base bid a total sum of:
(in numbers) $ _____
(in words) _____

BID SECURITY

Bid Security in the form of a Certified or Cashier's Check or a Bid Bond in the form required by the Contract Documents is attached to, and made a part of, this Proposal.

IRAN DIVESTMENT ACT CERTIFICATION

Contractor to submit with the bid, Iran Divestment Act Certification which hereto is made a part of this Form of Proposal and is attached at the end of this Form of Proposal.

REPRESENTATIONS

By submitting this Proposal, the Bidder represents and certifies to the Owner and the Architect that:

1. It has examined the Contract Documents, the site of the proposed Work, is familiar with the local conditions at the place where the Work is to be performed and fully comprehends the requirements and intent of the plans and specifications for this Project in accordance with the drawings, specifications and other Contract Documents prepared by CPL, the Owners Consultant, for this Project.
2. It has examined and reviewed, where applicable, all information and data in the Contract Documents related to existing underground facilities at or contiguous to the site. Bidder shall require of the Owner or Architect no further investigations, explorations, tests or reports with respect to such underground facilities in order for the Bidder to perform the Work of the Proposal within the Contract Time and in accordance with the Contract Documents.
3. It has given notice to the Architect, as required by the Contract Documents of any and all discrepancies it has discovered and accepts the resolution of those discrepancies offered by the Architect.
4. Pursuant to New York State General Municipal Law section 103-d, 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 knowledge and belief:
    a. The prices in this bid have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with 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 be knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or competitor; and
    c. No attempt has been made or will be made by bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
5. The proposal is based upon the materials, equipment and systems required by the Contract Documents, without exception, unless otherwise set forth in this Proposal in detail.

CHANGE ORDERS

We propose and agree that the above lump sum shall be adjusted for changes in the Contract Work not included in unit prices by addition of the following costs:

6. Profit and overhead as permitted in the GENERAL CONDITIONS.

NON-COLLUSIVE BIDDING 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 to the best of knowledge and belief:

7. 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 with any competitor;
8. 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 to any competitor; and

9. 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.

ACCEPTANCE

When this Proposal is accepted, the undersigned agrees to enter into a Contract with the Owner as provided in the Form of Agreement.

AFFIRMS

The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

TYPE OF BUSINESS

The undersigned hereby represents that it is a [ ] Corporation, [ ] Partnership, [ ] Individual. If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under the laws of New York State and it is authorized to do business in this State.

PLACE OF BUSINESS

The following is the name and address of the person to whom all notices required in connection with this Proposal may be telephoned, mailed, or delivered.

Name of Contact Person:	
Name of Business or Firm:	
Address:	
Address:	
Telephone:	Fax:
Email Address:	
FEIN: Federal Employer Identification No.:	

EXECUTION OF CONTRACT

When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

ASBESTOS

The bidder certifies that no asbestos or asbestos-containing materials will be incorporated into the Work of this Contract.

AUTHORIZED SIGNATURES FOR PROPOSALS

Signature:	
Name:	
	(Typed or Printed)
Title:	
Firm:	
	(Legal Name of Person, Single Proprietorship, Partnership, or Corporation)
Date:	

(if Corporation, provide seal above)

IRAN DIVESTMENT ACT CERTIFICATION

By submission of this bid, (DL & AV Equip 1315), or by assuming the responsibility of a Contract awarded hereunder, each bidder and each person signing on behalf of any bidders, 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/contractor/assignee is not on the "Entities Determined To Be Non-Responsive Bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list created pursuant to paragraph (b) subdivision 3 of section 165-a of the New York State Finance Law and posted on the OGS website at www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, Bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended. (See Article 10 in the Instructions to Bidders.)

NAME OF COMPANY: _____

(Individual or Legal Name of Firm or Corporation)

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

BY: _____

(Signature of Representative of Firm or Corporation)

NAME: _____ TITLE: _____

Please Print *Please Print*

DATED: _____

SWORN to before me this

_____ day of _____ 20 ___

Notary Public: _____

SEXUAL HARASSMENT POLICY/TRAINING AFFIRMATION

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 sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees.

Contractor Information:

Name of Contractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

Contractor Website: _____

_____ _____ _____

(Signature of Contractor) *(Title)* *(Date)*

END OF SECTION

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SECTION 004003
FORM OF PROPOSAL - PLUMBING CONSTRUCTION

DATED: _____

Bid from: Name: _____
Address: _____
_____
_____
Phone No.: _____
Fax No.: _____

Bid to: South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

Bid for: 2022 BOND PROJECT - PHASE 1
PLUMBING CONSTRUCTION (PC)

BASE BID

We have examined and fully understand the requirements and intent of the Bidding and Contract Documents and all subsequent addenda as listed below, and propose to provide all materials, plant, labor, supplies, equipment, transportation and other facilities necessary ,or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Multiple Contract Summary for the base bid lump sum of:

Total Lump Sum Base Bid (in numbers): $ _____

Total Lump Sum Base Bid (in words): _____

_____

ADDENDA RECEIVED

Any addenda issued by the Architect, mailed or delivered, to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within ten (10) days after a written Notice of Award, if offered within forty-five (45) days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5 %) of the Base Bid.

In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

TIME OF COMPLETION

It is agreed by the undersigned that after receipt of a Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, he or she will start work within ten (10) consecutive calendar days of the notice to proceed and fully complete the work as indicated in the Contract Documents.

ALLOWANCES

The Bidder acknowledges that all Allowances, pursuant to their Contract, have been included in the Base Bid. Should the following allowance(s) exceed ,or be less than, the cost of selected items, the difference in cost shall be added to, or credited to, the Owner's Contract. Refer to Specification Section 012100 "Allowances" for description of each allowance.

	Allowance Amount:
Plumbing Consturction; PC-01	$35,000.00

BID SECURITY

Bid Security in the form of a Certified or Cashier's Check or a Bid Bond in the form required by the Contract Documents is attached to, and made a part of, this Proposal.

IRAN DIVESTMENT ACT CERTIFICATION

Contractor to submit with the bid, Iran Divestment Act Certification which hereto is made a part of this Form of Proposal and is attached at the end of this Form of Proposal.

REPRESENTATIONS

By submitting this Proposal, the Bidder represents and certifies to the Owner and the Architect that:

1. It has examined the Contract Documents, the site of the proposed Work, is familiar with the local conditions at the place where the Work is to be performed and fully comprehends the requirements and intent of the plans and specifications for this Project in accordance with the drawings, specifications and other Contract Documents prepared by CPL, the Owners Consultant, for this Project.
2. It has examined and reviewed, where applicable, all information and data in the Contract Documents related to existing underground facilities at or contiguous to the site. Bidder shall require of the Owner or Architect no further investigations, explorations, tests or reports with respect to such underground facilities in order for the Bidder to perform the Work of the Proposal within the Contract Time and in accordance with the Contract Documents.
3. It has given notice to the Architect, as required by the Contract Documents of any and all discrepancies it has discovered and accepts the resolution of those discrepancies offered by the Architect.
4. Pursuant to New York State General Municipal Law section 103-d, 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 knowledge and belief:
    a. The prices in this bid have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with 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 be knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or competitor; and
c. No attempt has been made or will be made by bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

5. The proposal is based upon the materials, equipment and systems required by the Contract Documents, without exception, unless otherwise set forth in this Proposal in detail.

CHANGE ORDERS

We propose and agree that the above lump sum shall be adjusted for changes in the Contract Work not included in unit prices by addition of the following costs:

6. Profit and overhead as permitted in the GENERAL CONDITIONS.

NON-COLLUSIVE BIDDING 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 to the best of knowledge and belief:

7. 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 with any competitor;
8. 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 to any competitor; and
9. 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.

ACCEPTANCE

When this Proposal is accepted, the undersigned agrees to enter into a Contract with the Owner as provided in the Form of Agreement.

AFFIRMS

The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

TYPE OF BUSINESS

The undersigned hereby represents that it is a [ ] Corporation, [ ] Partnership, [ ] Individual. If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under the laws of New York State and it is authorized to do business in this State.

PLACE OF BUSINESS

The following is the name and address of the person to whom all notices required in connection with this Proposal may be telephoned, mailed, or delivered.

Name of Contact Person:	
Name of Business or Firm:	
Address:	
Address:	
Telephone:	Fax:
Email Address:	
FEIN: Federal Employer Identification No.:	

EXECUTION OF CONTRACT

When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

ASBESTOS

The bidder certifies that no asbestos or asbestos-containing materials will be incorporated into the Work of this Contract.

AUTHORIZED SIGNATURES FOR PROPOSALS

Signature:	
Name:	
	(Typed or Printed)
Title:	
Firm:	
	(Legal Name of Person, Single Proprietorship, Partnership, or Corporation)
Date:	

(if Corporation, provide seal above)

IRAN DIVESTMENT ACT CERTIFICATION

By submission of this bid, (DL & AV Equip 1315), or by assuming the responsibility of a Contract awarded hereunder, each bidder and each person signing on behalf of any bidders, 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/contractor/assignee is not on the "Entities Determined To Be Non-Responsive Bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list created pursuant to paragraph (b) subdivision 3 of section 165-a of the New York State Finance Law and posted on the OGS website at www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, Bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended. (See Article 10 in the Instructions to Bidders.)

NAME OF COMPANY: _____

(Individual or Legal Name of Firm or Corporation)

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

BY: _____

(Signature of Representative of Firm or Corporation)

NAME: _____ TITLE: _____

Please Print *Please Print*

DATED: _____

SWORN to before me this

_____ day of _____ 20 ___

Notary Public: _____

SEXUAL HARASSMENT POLICY/TRAINING AFFIRMATION

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 sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees.

Contractor Information:

Name of Contractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

Contractor Website: _____

_____ _____ _____

(Signature of Contractor) *(Title)* *(Date)*

END OF SECTION

SECTION 004004
FORM OF PROPOSAL - HAZARDOUS MATERIAL CONSTRUCTION

DATED: _____

Bid from: Name: _____
Address: _____
_____
_____
Phone No.: _____
Fax No.: _____

Bid to: South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

Bid for: 2022 BOND PROJECT - PHASE 1
HAZARDOUS MATERIAL CONSTRUCTION (HZ)

BASE BID

We have examined and fully understand the requirements and intent of the Bidding and Contract Documents and all subsequent addenda as listed below, and propose to provide all materials, plant, labor, supplies, equipment, transportation and other facilities necessary ,or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Multiple Contract Summary for the base bid lump sum of:

Total Lump Sum Base Bid (in numbers): $ _____

Total Lump Sum Base Bid (in words): _____

_____

ADDENDA RECEIVED

Any addenda issued by the Architect, mailed or delivered, to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____
Addendum No.: _____ Dated: _____

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within ten (10) days after a written Notice of Award, if offered within forty-five (45) days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5 %) of the Base Bid.

In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

TIME OF COMPLETION

It is agreed by the undersigned that after receipt of a Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, he or she will start work within ten (10) consecutive calendar days of the notice to proceed and fully complete the work as indicated in the Contract Documents.

ALLOWANCES

The Bidder acknowledges that all Allowances, pursuant to their Contract, have been included in the Base Bid. Should the following allowance(s) exceed ,or be less than, the cost of selected items, the difference in cost shall be added to, or credited to, the Owner's Contract. Refer to Specification Section 012100 "Allowances" for description of each allowance.

	Allowance Amount:
Hazardous Material Construction; HM-01	$25,000.00

UNIT PRICES

Refer to Specification Section 012200 - Unit Prices, for a description of each item. Should the value of the Work for this project be increased or decreased due to changes in design or based on field conditions, the Bidder agrees that the following unit prices will be used as the basis for an increase or decrease in the Contract amount. The difference between the "add" unit price and the "deduct" unit price for any item listed below shall not be greater than 20% of the "add" unit price.

1. **HAZARDOUS MATERIAL ABATEMENT (HZ)**
   a. HZ- 1 : Abatement of Asbestos containing Pipe Fittings:
      ADD $ _____ Per Fitting / **DEDUCT** $ _____ Per Fitting
   b. HZ-2: Abatement of Asbestos containing Pipe Insulation:
      ADD $ _____ Per LF / **DEDUCT** $ _____ Per LF
   c. HZ-3: Abatement of VAT Flooring:
      ADD $ _____ Per SF / **DEDUCT** $ _____ Per SF

BID SECURITY

Bid Security in the form of a Certified or Cashier's Check or a Bid Bond in the form required by the Contract Documents is attached to, and made a part of, this Proposal.

IRAN DIVESTMENT ACT CERTIFICATION

Contractor to submit with the bid, Iran Divestment Act Certification which hereto is made a part of this Form of Proposal and is attached at the end of this Form of Proposal.

REPRESENTATIONS

By submitting this Proposal, the Bidder represents and certifies to the Owner and the Architect that:

2. It has examined the Contract Documents, the site of the proposed Work, is familiar with the local conditions at the place where the Work is to be performed and fully comprehends the requirements and intent of the plans and specifications for this Project in accordance with the drawings, specifications and other Contract Documents prepared by CPL, the Owners Consultant, for this Project.
3. It has examined and reviewed, where applicable, all information and data in the Contract Documents related to existing underground facilities at or contiguous to the site. Bidder shall require of the Owner or Architect no further investigations, explorations, tests or reports with respect to such underground facilities in order for the Bidder to perform the Work of the Proposal within the Contract Time and in accordance with the Contract Documents.
4. It has given notice to the Architect, as required by the Contract Documents of any and all discrepancies it has discovered and accepts the resolution of those discrepancies offered by the Architect.
5. Pursuant to New York State General Municipal Law section 103-d, 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 knowledge and belief:
    a. The prices in this bid have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with 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 be knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or competitor; and
    c. No attempt has been made or will be made by bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
6. The proposal is based upon the materials, equipment and systems required by the Contract Documents, without exception, unless otherwise set forth in this Proposal in detail.

CHANGE ORDERS

We propose and agree that the above lump sum shall be adjusted for changes in the Contract Work not included in unit prices by addition of the following costs:

7. Profit and overhead as permitted in the GENERAL CONDITIONS.

NON-COLLUSIVE BIDDING 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 to the best of knowledge and belief:

8. 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 with any competitor;
9. 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 to any competitor; and
10. 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.

ACCEPTANCE

When this Proposal is accepted, the undersigned agrees to enter into a Contract with the Owner as provided in the Form of Agreement.

AFFIRMS

The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

TYPE OF BUSINESS

The undersigned hereby represents that it is a [ ] Corporation, [ ] Partnership, [ ] Individual. If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under the laws of New York State and it is authorized to do business in this State.

PLACE OF BUSINESS

The following is the name and address of the person to whom all notices required in connection with this Proposal may be telephoned, mailed, or delivered.

Name of Contact Person:	
Name of Business or Firm:	
Address:	
Address:	
Telephone:	Fax:
Email Address:	
FEIN: Federal Employer Identification No.:	

EXECUTION OF CONTRACT

When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

ASBESTOS

The bidder certifies that no asbestos or asbestos-containing materials will be incorporated into the Work of this Contract.

AUTHORIZED SIGNATURES FOR PROPOSALS

Signature:	
Name:	
	(Typed or Printed)
Title:	
Firm:	
	(Legal Name of Person, Single Proprietorship, Partnership, or Corporation)
Date:	

(if Corporation, provide seal above)

IRAN DIVESTMENT ACT CERTIFICATION

By submission of this bid, (DL & AV Equip 1315), or by assuming the responsibility of a Contract awarded hereunder, each bidder and each person signing on behalf of any bidders, 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/contractor/assignee is not on the "Entities Determined To Be Non-Responsive Bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list created pursuant to paragraph (b) subdivision 3 of section 165-a of the New York State Finance Law and posted on the OGS website at www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, Bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended. (See Article 10 in the Instructions to Bidders.)

NAME OF COMPANY: _____

(Individual or Legal Name of Firm or Corporation)

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

BY: _____

(Signature of Representative of Firm or Corporation)

NAME: _____ TITLE: _____

Please Print *Please Print*

DATED: _____

SWORN to before me this

_____ day of _____ 20 ___

Notary Public: _____

SEXUAL HARASSMENT POLICY/TRAINING AFFIRMATION

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 sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all its employees.

Contractor Information:

Name of Contractor: _____

Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

Contractor Website: _____

_____ _____ _____

(Signature of Contractor) *(Title)* *(Date)*

END OF SECTION

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SECTION 004500
QUALIFICATION STATEMENT

PROJECT NO. 14457.20

SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT

Name of Bidder: _____

Federal Employer's Identification No. (FEIN): _____

STATEMENT OF BIDDER'S QUALIFICATIONS

CONTRACT FOR (Circle one): GC, MC, PC, EC, HZ

NOTARIZED AND SUBMITTED BY 3 LOW BIDDERS WITHIN

72 HOURS UPON REQUEST BY ARCHITECT OR CONSTRUCTION MANAGER

All questions must be answered, and the data given must be clear and comprehensive. If necessary, questions may be answered on separate attached sheet.

1. Name of Bidder
2. Permanent main office address
3. When organized
4. If a corporation, where incorporated
5. How many years have you been engaged in the contracting business under your present firm or trade name?
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)
7. General character of work performed by your company
8. Has any construction contract to which you have been a party been terminated by the OWNER; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contract for which they furnished a bond on your behalf? If the answer to any portion of this question is “yes”, please furnish details of all such occurrences including name of owner, architect or Architect, and surety, and name and date of project.
9. Has any officer, partner, member or manager of your organization ever been an officer, partner, member or manager of another organization that had any construction contract terminated by the OWNER; terminated work on a project prior to its completion for any reason; had any surety which issued a performance bond complete the work in its own name or financed such completion; or had any surety expend any monies in connection with a contract for which they furnished a bond? If the answer to any portion of this question is “yes”, please furnish details of all such occurrences including name of owner, architect or Architect, and surety, and name and date of project.
10. List your experience in work similar to this project.
11. List the background and experience of the principal members of your organization, including officers.
12. List name of project, owner, architect or Architect, contract amount, percent complete and scheduled completion of the major construction projects your organization has in process on this date.
13. List name of project, owner, architect or Architect, contract amount, date of completion and percent of work with own forces of the major projects of the same general nature as this project which your organization has completed in the past five (5) years.
14. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner?

15. List name, address and telephone number of a reference for each project listed under items 12 and 13 above.
16. List names and construction experience of the principal individuals of our organization.
17. List the states and categories of construction in which your organization is legally qualified to do business.
18. List name, address and telephone number of an individual who represents each of the following and whom OWNER may contact for a financial reference:
    a.

    One Surety:

    Two banks:

    Three major material suppliers:

19. Attach a financial statement, prepared on an accrual basis, in a form which clearly indicates assets, liabilities and net worth.

    Date of financial statement: _____

    a.

    Name of firm preparing statement: _____

    b.
20. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications and that the answers to the foregoing questions and all statements therein contained are true and correct.
21.

Dated _____ this _____ date of _____, 20____.

_____
(Name of Bidder)

By:

Title:

State of _____)
County of _____) ss.

_____ being duly sworn deposes and says that he is
_____ of _____
(Name of Organization)
and that the answers to the foregoing questions and all statements therin contained are true and correct.

Subscribed and sworn to before me
this _____ day of _____, 20____.
My commission expires _____, 20____.

BIDDERS STATEMENT

I am _____

(Name)

of _____

(Firm or Corporation)

The Bidder making the Bid for Construction of the above named Project, certifies that I or my authorized representative has personally inspected the job site. The Bidder has relied on its own knowledge and review and interpretation of the Bidding Documents and all relevant plans and specifications, boring logs and other data in submitting his bid and not on any representation made by the Owner, Architect, or any other person, with respect to the character, quality or quantities of Work to be performed, or materials or equipment to be furnished. Bidder acknowledges that any quantities are an estimate only so that Bidder agrees not to seek additional compensation or request an adjustment in any unit price as a result of any variation in quantities or unforeseen site conditions encountered for any reason whatsoever. The Bidder represents that it has reviewed and accepts the applicable Project schedule and all revisions thereto. The Bidder agrees and understands that any such project schedule is incorporated by reference in the Contract Documents and further acknowledges that its failure to adhere to any such project schedule will expose Owner to severe financial hardship. Accordingly, Bidder agrees to exonerate, indemnify and hold Owner harmless from and against any and all losses, damages (including claims made by other Contractors performing Work at the Project) and claims arising out of Bidder's failure to adhere to any project schedule or any modifications, updates or revisions thereto. The Bidder's failure to adhere to and maintain the project schedule, including any revisions thereto, shall be grounds for termination.

By: _____

(Signature of Bidder)

_____

(Title or Position)

_____

(Seal if Bidder is a Corporation)

_____

(Printed or Typed Name of Bidder)

PERFORMANCE BOND INFORMATION FORM

1.2

City/Town/Village _____

School District _____

Construction Contract Number _____

Name of Contract _____

Name of Contractor _____

Address _____

_____

Entity Issuing Security Bond _____
Address _____

_____

Bonding Agent _____
Address _____

_____

Amount of Bid _____
Duration of Bond From _____ To _____
Bond Identification Number _____

END OF SECTION

SECTION 005100

AGREEMENT FORM

(STIPULATED SUM CONTRACT MODIFIED AIA FORMS A132 – 2019 AND A232 – 2019)

PART 1 GENERAL

1.1 SUMMARY

A. The following is a Redline-Modified AIA Document A132 - 2019 "Standard Form of Agreement Between Owner and Contractor, Construction Manager-Adviser Edition, (South Orangetown Central School District Modified Form – 2023)", which is bound with this Section. This stipulated sum contract document incorporates by reference and includes the Redline-Modified AIA Document A232 – 2019 , General Conditions of the Contract for Construction, Construction Manager- Adviser Edition(South Orangetown Central School District Modified Form – 2023) provided elsewhere in the Specifications. The Contract includes other documents identified in the modified A132 – 2019, and the Construction Manager only serves in the capacity of an adviser to the Owner, rather than as contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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AIA® Document A132® – 2019

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

THIS "AGREEMENT" made as of [DATE].
(Paragraph deleted)
BETWEEN the **"Owner"**:

SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT
160 Van Wyck Road
Blauvelt, NY 10913

and the **"Contractor"**:

[INPUT]

(Paragraph deleted)
for the following **"Project"**:

2022 Bond Project – Phase 1
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

William O. Schaefer Elementary: 50-03-01-06-0-012-019
Cottage Lane Elementary: 50-03-01-06-0-010-022
Tappan Zee High School: 50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: 50-03-01-06-0-012-020
Cottage Lane Sound & Lockdown: 50-03-01-06-0-010-023
Cottage Lane Library Sound & Lockdown: 50-03-01-06-8-023-002
WOS Outdoor Classroom: 50-03-01-06-7-053-001
CLE Outdoor Classroom: 50-03-01-06-7-054-001
SOMS Outdoor Classroom: 50-03-01-06-7-056-001
TZHS Outdoor Classroom: 50-03-01-06-7-055-001

CPL Project No. 14457.20

The **"Construction Manager"**:

The Palombo Group Inc.
22 Noxon St.
Poughkeepsie, NY 12601

The **"Architect"**:

CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C. d/b/a CPL
50 Front Street
Suite 202

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as 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 necessary information and 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 Documents A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser. AIA Document A232™–2019 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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(2054308696)

Newburgh, NY 12550

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In consideration of the mutual promises set forth below and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Owner and Contractor agree as follows. Each of Owner and Contractor may hereinafter be referred to as a "Party" and collectively as the "Parties".

TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

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 and expressly incorporated herein by reference 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 Modifications, appears in Article 9. See also coordinated defined terms in General Conditions of the Contract (A232-2019, as modified), Sections 1.1.1 and 1.1.2.

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 REQUIRED SUBSTANTIAL COMPLETION DATE

§ 3.1 The date of commencement of the Work shall be

(Paragraphs deleted)

the date of this Agreement (also referred to as the date of the "Contract").

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work. See also General Conditions of the Contract (A232-2019, as modified), Section 8.1.1 for definition of Contract Time.

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§ 3.3 Substantial Completion of the Project or Portions Thereof

§ 3.3.1 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, the date required for Substantial Completion of the Work of all of the Contractors for the Project will be:
(Insert the date required for Substantial Completion of the Work of all Contractors for the Project.)

§ 3.3.2 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, if portions of the Work of all of the Contractors for the Project are to be completed prior to date required for Substantial Completion of the entire Work of all of the Contractors for the Project, the Contractors shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.4 When the Work of this Contract, or any Portion Thereof, is Substantially Complete

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

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

[ ] By the following date:

(which Contract Time may also be referred to as the "**Required Substantial Completion Date**").

§ 3.4.2 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, if Contractor shall be required to achieve Substantial Completion of portions of the Work of this Contract prior to the Required Substantial Completion Date of the entire Work of this Contract above, the Contractor shall substantially complete such portions by the following dates:

Portion of Work	Date to be substantially complete

(each individually and collectively, "Milestone Dates").

§ 3.4.3 If the Contractor fails to substantially complete the Work of this Contract, or portions thereof, as provided in this Section 3.4 and its subsections, Liquidated Delay Damages shall be assessed as set forth in Article 8 (and, without limitation, Section 8.4 thereof) of the General Conditions of the Contract (A232 – 2019, as modified).

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the "**Contract Sum**" in current funds for the Contractor's
(Paragraphs deleted)
timely and full performance of all Work and other obligations of the Contract pursuant and subject to the terms of this Contract and applicable law. The Contract Sum shall be the Stipulated Sum of **[INSERT] Dollars ($INSERT)**, subject to additions and deductions only 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.)

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Item	Price	Conditions for Acceptance

(Table deleted)
(Paragraphs deleted)
(Table deleted)
(Paragraphs deleted)
(Table deleted)
(Paragraphs deleted)
(Table deleted)
(Paragraph deleted)

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

Item	Price

(Paragraph deleted)
(Table deleted)
(Paragraphs deleted)

§ 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)

(Paragraphs deleted)
(Table deleted)
(Paragraphs deleted)
(Table deleted)
(Paragraphs deleted)
(Table deleted)
(Paragraphs deleted)
(Table deleted)
(Paragraphs deleted)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and upon Certificates for Payment thereafter issued by the Construction Manager and 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 (1) calendar month ending on the last day of the month.

§ 5.1.2.1 Based upon the approved Schedule of Values, a "pencil copy" of the Application for Payment shall be submitted by Contractor to Construction Manager no later than the 20th day of each calendar month for Work performed and materials installed during that month (estimated through the end of that month). Notwithstanding anything in the Contract Documents to the contrary, **Changes in the Work will only be paid as per a written Change Order signed by the Owner.**

§ 5.1.2.2 After the "pencil copy" is approved by the Construction Manager and Architect, Contractor shall transmit four (4) signed and notarized copies of the original Application for Payment, with certified original payroll transcripts and any other documentation required by the Contract Documents and/or applicable law, to the Construction Manager by the first (1st) day of the month following the month for which payment is sought, for certification by Construction Manager and Architect. Notwithstanding anything in the Contract Documents to the contrary, Contractor's failure to submit a proper Application for Payment with certified original payroll transcripts and any other proper documentation required by the

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Contract Documents and/or applicable law shall serve to extend the timeframe for payment as required for Construction Manager's and Architect's review.

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the first (1st) day of a month (as provided above in Section 5.1.2.2), the Owner shall make payment of the amount certified to the Contractor not later than the first (1st) day of the following month (provided further that the Application for Payment is approvable in accordance with the terms of the Contract). If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall be made by the Owner in the amount certified by Construction Manager and Architect not later than thirty (30) days after the Construction Manager receives the Application for Payment (provided further that the Application for Payment is otherwise approvable in accordance with the terms of the Contract).

(Paragraph deleted)

§ 5.1.4Each Application for Payment shall be based on the 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 Construction Manager and Architect may require. This Schedule of Values shall be used as a basis for reviewing the Contractor's Applications for Payment. When requested by Construction Manager, the Contractor shall submit with the Application for Payment (and without limitation to other documentation required to be submitted), current and duly executed waivers of mechanic's liens from Subcontractors and/or lower tier sub-subcontractors establishing receipt of prior payments. Payment shall not be released to the Contractor until the Owner receives certified payroll for Contractor's employees and employees of Subcontractors performing Work on the Project.

§ 5.1.4.1 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.

§ 5.1.4.2 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the Schedule of Values, less retainage of five percent (5%);

.2 Add 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 writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of five percent (5%);

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions of the Contract (A232-2019, as modified) or elsewhere in the Contract Documents.

§ 5.1.4.3 The progress payment amount determined in accordance with Section 5.1.4.2 shall be further modified under the following circumstances:

.1 Upon Substantial Completion of the Work as provided in Section 5.1.4.4 below.

(Paragraphs deleted)

§ 5.1.4.4 Reduction or limitation of retainage, if any, shall be as follows:

Once Work on the Project reaches Substantial Completion, as certified by the Architect, all retainage held by the Owner on account of Certificates for Payment may be released following submission and certification of a proper Application for Payment, except for an amount equal to 200% of the value of (i) all punch-list items and other Work required to be completed by Contractor and (ii) Owner's unsettled Claims, each as determined by the Architect, Construction Manager and/or Owner in their discretion. At final completion of the Project, in connection with Contractor's final payment, the remainder of the held retainage shall be returned to Contractor subject to all other terms and conditions of this Contract.

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(Paragraphs deleted)

§ 5.2 Final Payment

§ 5.2.1 Final Payment Where the Contract Sum is Based on a Stipulated Sum

§ 5.2.1.1 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 the General Conditions of the Contract (A232–2019, as modified), and to satisfy other requirements, if any, which extend beyond final payment;

.2 all required documentation has been submitted to the Construction Manager and been reviewed and approved by Construction Manager and Architect and all sign-offs and/or approvals of any governmental agencies or any authorities with jurisdiction over the Work or Project have been obtained; and

.3 a final Certificate for Payment has been issued by the Construction Manager and Architect for the Contractor.

§ 5.2.1.2 Such final payment shall be made by the Owner to the Contractor no later than 30 days after the issuance of the
(Paragraphs deleted)
Architect's and Construction Manager's final Certificate for Payment for the Contractor.
(Paragraphs deleted)
§ 5.3 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the
(Paragraphs deleted)
greater of zero percent (0%) per annum or that specified and required by applicable law.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1
(Paragraphs deleted)
Litigation. All Claims or other disputes between the Parties to this Contract, concerning this Contract or any portion thereof or arising out of or relating to the Work performed or required hereunder, shall only be resolved by litigation before the courts of appropriate jurisdiction of the State of New York located in the County of Rockland. In connection with the foregoing, the Owner and Contractor hereby consent to the exclusive jurisdiction of the Supreme Court of the State of New York, County of Rockland, and waive any challenge to the venue or personal jurisdiction of such court.

§ 6.2
(Paragraphs deleted)
Notwithstanding anything to the contrary set forth in any of the Contract Documents, **arbitration shall not be a permitted form of dispute resolution for matters concerning this Contract or any portion thereof or any Claim or dispute relating thereto or arising out of or related to the Work performed hereunder**. Any references to arbitration in any of the Contract Documents shall be deemed severed from the Contract Documents and unenforceable. **Any and all Claims and disputes and other matters concerning this Contract or any portion thereof or arising out of or related to the Work performed hereunder shall only be subject to litigation as provided above in Section 6.1.**

§ 6.3 This Contract shall, in all respects, be subject to and construed in accordance with the laws of the State of New York without giving effect to the conflict-of-laws provisions thereof that would direct or refer the resolution of any issue hereunder to the laws of another jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

(Paragraphs deleted)
§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in the modified Article 14 of the General Conditions of the Contract (A232–2019, as modified) included herewith as a Contract Document.

§ 7.2 The Work may be suspended by the Owner as provided in the modified Article 14 of the General Conditions of the Contract (A232–2019, as modified) included herewith as a Contract Document.

(Paragraphs deleted)

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ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Any reference in this Agreement or the other Contract Documents to "AIA Document A232–2019 General Conditions", "General Conditions of the Contract (A232-2019, as modified)", "AIA Document A232–2019", "A232–2019 General Conditions", "A232–2019, as modified", "A232–2019", "General Conditions", or the like, shall be deemed to expressly refer to the modified AIA Document A232–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition (South Orangetown Central School District Modified Form – 2023) included as a Contract Document as provided in Section 9.1.3 below. Where reference is made in this Agreement to a provision of AIA Document A232–2019 or another Contract Document, the reference refers to that provision as amended or supplemented therein and/or by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:

Gregory Kern, School Business Administrator
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

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

INPUT

§ 8.4 Owner may change its Owner's representative at any time by written notice to Contractor. Contractor's representative shall not be changed without ten (10) days' prior written notice to the Owner, Construction Manager, and Architect .

§ 8.5 Contractor represents and warrants the following to the Owner (in addition and without limitation to any other representations, warranties and/or guarantees contained in the Contract Documents) as an inducement to the Owner to execute this Contract and such representations and warranties shall survive any termination of this Contract and the final completion of the Work:

§ 8.5.1 Contractor and all of its Subcontractors are financially solvent, able to pay all debts as they mature and are possessed of sufficient working capital to complete the Work and perform all obligations under this Contract;

§ 8.5.2 Contractor is able to furnish all labor, material, plant, tools, supplies, and equipment required to complete all of the Work and perform all of its obligations under the Contract;

§ 8.5.3 Contractor is authorized to do business in the State of New York and the United States and is properly licensed by all governmental, public, and quasi-public authorities having jurisdiction over it and over the Work of the Contract;

§ 8.5.4 Contractor's execution of this Agreement and its performance hereunder is within its duly authorized powers; and

§ 8.5.5 Contractor possesses a high level of experience and expertise in the business administration, construction management, construction rules and regulations on public school property, and the superintendence on projects of the size, complexity and nature of this particular Project, and that it will perform the Work with the care and diligence of such a Contractor.

§ 8.6
(Paragraphs deleted)

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Insurance and Bonds

(Paragraphs deleted)

§ 8.6.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in Exhibit A(Insurance and Bonds) to this Agreement, and elsewhere in the Contract Documents.

§ 8.6.2 The Contractor shall provide bonds as set forth in Exhibit A (Insurance and Bonds) to this Agreement, and elsewhere in the Contract Documents.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are comprised of the following documents:

.1 The "Agreement" is this modified and executed AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition (South Orangetown Central School District Modified Form – 2023).

.2 Exhibit A, Insurance and Bonds .

.3 The modified AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition (South Orangetown Central School District Modified Form – 2023).

.4 The "Project Manual" [IDENTIFY] which is incorporated herein by reference.

.5 The "**Drawings**" which are listed in the Project Manual and are incorporated by reference. See also:

Number	Title	Date
See Section 000115	Drawing List	10/18/23

.6

(Paragraphs deleted)

The "**Specifications**" are as provided in the Project Manual and are incorporated by reference. See also:

Section	Title	Date
See Section 000110	Table of Contents	10/18/23

(Paragraphs deleted)

.7 The "**Addenda**", if any:

Number	Date	Pages
IDENTIFY	IDENTIFY	IDENTIFY

.8 Other Exhibits, if any

Exhibit 1 –Contractor's Bid Proposal is part of the Contract Documents (and is incorporated herein by reference). To the extent of any conflict between the Contractor's Bid Proposal and the other Contract Documents, the other Contract Documents, particularly, without limitation, this Agreement, shall control.

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

OWNER SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT	CONTRACTOR [IDENTIFY]
By:	By:
(Signature)	*(Signature)*
(Printed name and title)	*(Printed name and title)*

Init.
/

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Additions and Deletions Report for

AIA® Document A132® – 2019

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.

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PAGE 1

~~**AGREEMENT** made as of the day of in the year~~ **THIS "AGREEMENT"** made as of [DATE].
~~*(In words, indicate day, month, and year.)*~~

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

SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT
160 Van Wyck Road
Blauvelt, NY 10913

and the ~~Contractor:~~**"Contractor"**:
~~(Name, legal status, address, and other information)~~
[INPUT]

~~for the following Project:~~for the following **"Project"**:

2022 Bond Project – Phase 1
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

William O. Schaefer Elementary: 50-03-01-06-0-012-019
Cottage Lane Elementary: 50-03-01-06-0-010-022
Tappan Zee High School: 50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: 50-03-01-06-0-012-020
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Cottage Lane Library Sound & Lockdown: 50-03-01-06-8-023-002
WOS Outdoor Classroom: 50-03-01-06-7-053-001
~~(Name, location, and detailed description)~~CLE Outdoor Classroom: 50-03-01-06-7-054-001
SOMS Outdoor Classroom: 50-03-01-06-7-056-001
TZHS Outdoor Classroom: 50-03-01-06-7-055-001

CPL Project No. 14457.20

The ~~Construction Manager:~~**"Construction Manager"**:
~~(Name, legal status, address, and other information)~~
The Palombo Group Inc.
22 Noxon St.
Poughkeepsie, NY 12601

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The "Architect":
~~The Architect:~~
~~(Name, legal status, address, and other information)~~CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C. d/b/a CPL
50 Front Street
Suite 202
Newburgh, NY 12550

The purpose of the "redline" revisions in this document are to amend, supplement and/or void portions of the AIA standard form document. Strikethrough shall indicate deletion and severing of language from the AIA standard form document, and underline shall indicate addition to the AIA standard form document. The final Contract document which will be prepared from this "redline" form may finalize the document to effect such revisions without showing "redline".

~~The~~ In consideration of the mutual promises set forth below and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Owner and Contractor agree as follows. Each of Owner and Contractor may hereinafter be referred to as a "Party" and collectively as the "Parties".

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EXHIBIT A INSURANCE AND BONDS
~~**EXHIBIT B DETERMINATION OF THE COST OF THE WORK**~~

...

The ~~Contract Documents~~ **"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,~~ **"Contract"**, and are as fully a part of the Contract and expressly incorporated herein by reference as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the ~~parties~~ Parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9. See also coordinated defined terms in General Conditions of the Contract (A232-2019, as modified), Sections 1.1.1 and 1.1.2.

...

~~**ARTICLE 3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION**~~
ARTICLE 3 DATE OF COMMENCEMENT AND REQUIRED SUBSTANTIAL COMPLETION DATE

§ 3.1 The date of commencement of the Work shall ~~be:~~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.~~the date of this Agreement (also referred to as the date of the "Contract").

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work. See also General Conditions of the Contract (A232-2019, as modified), Section 8.1.1 for definition of Contract Time.

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§ 3.3.1 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, the date ~~of~~ required for Substantial Completion of the Work of all of the Contractors for the Project will be:
(Insert the date ~~of~~ required for Substantial Completion of the Work of all Contractors for the Project.)

...

§ 3.3.2 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, if portions of the Work of all of the Contractors for the Project are to be completed prior to date required for Substantial Completion of the entire Work of all of the Contractors for the Project, the Contractors shall achieve Substantial Completion of such portions by the following dates:

...

§ 3.4.1 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, the Contractor shall ~~substantially complete~~ achieve Substantial Completion of the entire Work of this Contract:

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...

[ ] By the following date:

(which Contract Time may also be referred to as the **"Required Substantial Completion Date"**).

§ 3.4.2 Subject to adjustments of the Contract Time only as provided in and subject to the terms of the Contract Documents, if Contractor shall be required to achieve Substantial Completion of portions of the Work of this Contract ~~are to be substantially complete prior to when~~ prior to the Required Substantial Completion Date of the entire Work of this Contract ~~shall be substantially complete,~~ above, the Contractor shall substantially complete such portions by the following dates:

...

(each individually and collectively, "Milestone Dates").

§ 3.4.3 If the Contractor fails to substantially complete the Work of this Contract, or portions thereof, as provided in this Section ~~3.4, liquidated damages, if any,~~ 3.4 and its subsections, Liquidated Delay Damages shall be assessed as set forth in ~~Section 4.5.~~Article 8 (and, without limitation, Section 8.4 thereof) of the General Conditions of the Contract (A232 – 2019, as modified).

...

§ 4.1 The Owner shall pay the Contractor the ~~Contract Sum~~ **"Contract Sum"** in current funds for the Contractor's ~~performance of the Contract. The Contract Sum shall be one of the following:~~
~~*(Check the appropriate box.)*~~

~~[ ] Stipulated Sum, in accordance with Section 4.2 below~~

~~[ ] Cost of the Work plus the Contractor's Fee, in accordance with Section 4.3 below~~

~~[ ] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 4.4 below~~

timely and full performance of all Work and other obligations of the Contract pursuant and subject to the terms of this Contract and applicable law. The Contract Sum shall be the Stipulated Sum of **[INSERT] Dollars ($INSERT)**, subject to additions and deductions only as provided in the Contract Documents.
~~(Based on the selection above, complete Section 4.2, 4.3 or 4.4 below.)~~

§ 4.2 ~~Stipulated Sum~~Alternates

§ 4.2.1 ~~The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents.~~Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 ~~Alternates~~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

~~**§ 4.2.2.1** Alternates, if any, included in the Contract Sum:~~

~~Item~~	~~Price~~

~~**§ 4.2.2.2** 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.~~

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~~*(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)*~~

~~Item~~	~~Price~~	~~Conditions for Acceptance~~

~~§ 4.2.3 Allowances, if any, included in the Contract Sum:~~
~~*(Identify each allowance.)*~~

~~Item~~	~~Price~~

~~§ 4.2.4 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)~~

§ 4.3 ~~Cost of the Work Plus Contractor's Fee without a Guaranteed Maximum Price~~Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

~~§ 4.3.1 The Cost of the Work is as defined in Exhibit B, Determination of the Cost of the Work.~~

~~§ 4.3.2 The Contractor's Fee:~~
~~*(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)*~~

~~§ 4.3.3 The method of adjustment of the Contractor's Fee for changes in the Work:~~

~~§ 4.3.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:~~

~~§ 4.3.5 Rental rates for Contractor-owned equipment shall not exceed __ percent (__ %) of the standard rental rate paid at the place of the Project.~~

~~§ 4.3.6 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)~~

~~§ 4.3.7 The Contractor shall prepare and submit to the Construction Manager, within 14 days of executing this Agreement, a written Control Estimate for the Owner's review and approval. The Control Estimate shall include the items in Section B.1 of Exhibit B, Determination of the Cost of the Work.~~

§ 4.4 ~~Cost of the Work Plus Contractor's Fee with a Guaranteed Maximum Price~~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)

~~§ 4.4.1 The Cost of the Work is as defined in Exhibit B, Determination of the Cost of the Work.~~

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§ 4.4.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

§ 4.4.3 The method of adjustment of the Contractor's Fee for changes in the Work:

§ 4.4.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

§ 4.4.5 Rental rates for Contractor-owned equipment shall not exceed __ percent (__ %) of the standard rental rate paid at the place of the Project.

§ 4.4.6 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)

§ 4.4.7 Guaranteed Maximum Price
§ 4.4.7.1 The Contract Sum is guaranteed by the Contractor not to exceed __ ($ __), subject to additions and deductions by Change Order as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

§ 4.4.7.2 Alternates
§ 4.4.7.2.1 Alternates, if any, included in the Guaranteed Maximum Price:

Item	Price

§ 4.4.7.2.2 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

§ 4.4.7.3 Allowances, if any, included in the Guaranteed Maximum Price:
(Identify each allowance.)

Item	Price

§ 4.4.7.4 Assumptions, if any, upon which the Guaranteed Maximum Price is based:
(Identify each assumption.)

§ 4.4.8 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes, or equipment, all of which, if required, shall be incorporated by Change Order.

§ 4.4.9 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 4.4.7.4. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 4.4.7.4 and the revised Contract Documents.

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~~§ 4.5 Liquidated damages, if any:~~
~~*(Insert terms and conditions for liquidated damages, if any, to be assessed in accordance with Section 3.4.)*~~

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

PAGE 4

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and upon Certificates for Payment thereafter issued by the Construction Manager and 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 (1) calendar month ending on the last day of the ~~month, or as follows:~~

month.

§ 5.1.2.1 Based upon the approved Schedule of Values, a "pencil copy" of the Application for Payment shall be submitted by Contractor to Construction Manager no later than the 20th day of each calendar month for Work performed and materials installed during that month (estimated through the end of that month). Notwithstanding anything in the Contract Documents to the contrary, **Changes in the Work will only be paid as per a written Change Order signed by the Owner.**

§ 5.1.2.2 After the "pencil copy" is approved by the Construction Manager and Architect, Contractor shall transmit four (4) signed and notarized copies of the original Application for Payment, with certified original payroll transcripts and any other documentation required by the Contract Documents and/or applicable law, to the Construction Manager by the first (1st) day of the month following the month for which payment is sought, for certification by Construction Manager and Architect. Notwithstanding anything in the Contract Documents to the contrary, Contractor's failure to submit a proper Application for Payment with certified original payroll transcripts and any other proper documentation required by the Contract Documents and/or applicable law shall serve to extend the timeframe for payment as required for Construction Manager's and Architect's review.

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the ~~day of a month,~~ first (1st) day of a month (as provided above in Section 5.1.2.2), the Owner shall make payment of the amount certified to the Contractor not later than the ~~day of the month.~~ first (1st) day of the following month (provided further that the Application for Payment is approvable in accordance with the terms of the Contract). If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall be made by the Owner ~~not later than ( )~~ in the amount certified by Construction Manager and Architect not later than thirty (30) days after the Construction Manager receives ~~the Application for Payment.~~the Application for Payment (provided further that the Application for Payment is otherwise approvable in accordance with the terms of the Contract).
~~(Federal, state or local laws may require payment within a certain period of time.)~~

~~§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum~~
§ 5.1.4Each Application for Payment shall be based on the 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 Construction Manager and Architect may require. This Schedule of Values shall be used as a basis for reviewing the Contractor's Applications for Payment. When requested by Construction Manager,

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the Contractor shall submit with the Application for Payment (and without limitation to other documentation required to be submitted), current and duly executed waivers of mechanic's liens from Subcontractors and/or lower tier sub-subcontractors establishing receipt of prior payments. Payment shall not be released to the Contractor until the Owner receives certified payroll for Contractor's employees and employees of Subcontractors performing Work on the Project.

§ 5.1.4.1 ~~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 Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications.~~ 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.

§ 5.1.4.2 ~~Applications for Payment shall show the percentage of~~ Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work ~~as of the end of the period covered by the Application for Payment.~~ by the share of the total Contract Sum allocated to that portion of the Work in the Schedule of Values, less retainage of five percent (5%);

.2 Add 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 writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of five percent (5%);

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions of the Contract (A232-2019, as modified) or elsewhere in the Contract Documents.

§ 5.1.4.3 ~~In accordance with AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:~~ The progress payment amount determined in accordance with Section 5.1.4.2 shall be further modified under the following circumstances:

.1 Upon Substantial Completion of the Work as provided in Section 5.1.4.4 below.

~~§ 5.1.4.3.1 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.~~

~~§ 5.1.4.3.2 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 A232–2019;~~

~~.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 A232–2019; and~~

~~.5 Retainage withheld pursuant to Section 5.1.7.~~

~~§ 5.1.5 Progress Payments Where the Contract Sum is Based on the Cost of the Work without a Guaranteed Maximum Price~~

~~§ 5.1.5.1 With each Application for Payment, the Contractor shall submit the cost control information required in Exhibit B, Determination of the Cost of the Work, along with payrolls, petty cash accounts, receipted invoices, or~~

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~~invoices with check vouchers attached, and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that payments already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor, plus payrolls for the period covered by the present Application for Payment, less that portion of the payments attributable to the Contractor's Fee.~~

~~§ 5.1.5.2 Applications for Payment shall show the Cost of the Work actually incurred by the Contractor through the end of the period covered by the Application for Payment and for which the Contractor has made or intends to make actual payment prior to the next Application for Payment.~~

~~§ 5.1.5.3 In accordance with AIA Document A232–2019 and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:~~

~~§ 5.1.5.3.1 The amount of each progress payment shall first include:~~

- ~~.1 The Cost of the Work as described in Exhibit B, Determination of the Cost of the Work;~~
- ~~.2 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified; and~~
- ~~.3 The Contractor's Fee computed upon the Cost of the Work described in the preceding Section 5.1.5.3.1.1 at the rate stated in Section 4.3.2; or if the Contractor's Fee is stated as a fixed sum in Section 4.3.2 an amount which bears the same ratio to that fixed-sum Fee as the Cost of the Work included in Section 5.1.5.3.1.1 bears to a reasonable estimate of the probable Cost of the Work upon its completion.~~

~~§ 5.1.5.3.2 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 A232–2019;~~
- ~~.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 A232–2019;~~
- ~~.5 The shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.5.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and~~
- ~~.6 Retainage withheld pursuant to Section 5.1.7.~~

~~§ 5.1.5.4 The Owner, Construction Manager and Contractor shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors and the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.~~

~~§ 5.1.5.5 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor, and such action shall not be deemed to be a representation that (1) the Construction Manager and Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Article 5 or other supporting data; (2) that the Construction Manager and Architect have made exhaustive or continuous on-site inspections; or (3) that the Construction Manager and Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.~~

~~§ 5.1.5.6 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.~~

~~§ 5.1.5.7 If final completion of the Work is materially delayed through no fault of the Contractor, then the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A232–2019.~~

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~~§ 5.1.6 Progress Payments Where the Contract Sum is Based on the Cost of the Work with a Guaranteed Maximum Price~~

~~§ 5.1.6.1 With each Application for Payment, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that payments already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.~~

~~§ 5.1.6.2 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 Guaranteed Maximum Price among: (1) the various portions of the Work; (2) any contingency for costs that are included in the Guaranteed Maximum Price but not otherwise allocated to another line item or included in a Change Order; and (3) the Contractor's Fee.~~

~~§ 5.1.6.2.1 The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.~~

~~§ 5.1.6.2.2 The allocation of the Guaranteed Maximum Price under this Section 5.1.6.2 shall not constitute a separate guaranteed maximum price for the Cost of the Work of each individual line item in the schedule of values.~~

~~§ 5.1.6.2.3 When the Contractor allocates costs from a contingency to another line item in the schedule of values, the Contractor shall submit supporting documentation to the Architect and Construction Manager.~~

~~§ 5.1.6.3 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. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed; or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Contractor on account of that portion of the Work and for which the Contractor has made payment or intends to make payment prior to the next Application for Payment by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.~~

~~§ 5.1.6.4 In accordance with AIA Document A232–2019, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:~~

~~§ 5.1.6.4.1 The amount of each progress payment shall first include:~~

- ~~.1 That portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the most recent schedule of values;~~
- ~~.2 That portion of the Guaranteed Maximum Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction or, if approved in writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing;~~
- ~~.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified; and~~
- ~~.4 The Contractor's Fee, computed upon the Cost of the Work described in the preceding Sections 5.1.6.4.1.1 and 5.1.6.4.1.2 at the rate stated in Section 4.4.2 or, if the Contractor's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum fee as the Cost of the Work included in Sections 5.1.6.4.1.1 and 5.1.6.4.1.2 bears to a reasonable estimate of the probable Cost of the Work upon its completion.~~

§ 5.1.4.4 Reduction or limitation of retainage, if any, shall be as follows:
Once Work on the Project reaches Substantial Completion, as certified by the Architect, all retainage held by the Owner on account of Certificates for Payment may be released following submission and certification of a proper Application for Payment, except for an amount equal to 200% of the value of (i) all punch-list items and other Work required to be completed by Contractor and (ii) Owner's unsettled Claims, each as determined by the Architect, Construction Manager and/or Owner in their discretion. At final completion of the Project, in connection with Contractor's final payment, the remainder of the held retainage shall be returned to Contractor subject to all other

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terms and conditions of this Contract.

~~§ 5.1.6.4.2 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 A232–2019;~~

~~.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 A232–2019;~~

~~.5 The shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.6.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and~~

~~.6 Retainage withheld pursuant to Section 5.1.7.~~

~~§ 5.1.6.5 The Owner and the Contractor shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors and the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.~~

~~§ 5.1.6.6 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and such action shall not be deemed to be a representation that (1) the Construction Manager or Architect have made a detailed examination, audit, or arithmetic verification of the documentation submitted in accordance with Section 5.1.6.1 or other supporting data; (2) that the Construction Manager or Architect have made exhaustive or continuous on-site inspections; or (3) that the Construction Manager or Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits, and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.~~

~~§ 5.1.6.7 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.~~

~~§ 5.1.6.8 If final completion of the Work is materially delayed through no fault of the Contractor, then the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A232–2019.~~

~~§ 5.1.7 Retainage~~

~~§ 5.1.7.1 For each progress payment made prior to when the Work of this Contract is substantially complete, 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.)*~~

~~§ 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 when the entire Work of this Contract is substantially complete, including modifications for completion of portions of the Work as provided in Section 3.4.2, insert provisions for such modifications.)*~~

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~~§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, when the Work of this Contract is substantially complete, 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 when the Work of this Contract is substantially complete shall not include retainage as follows:~~
~~*(Insert any other conditions for release of retainage when the Work of this Contract is substantially complete, or upon Substantial Completion of the Work of all Contractors on the Project or portions thereof.)*~~

.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 A232–2019,~~ the General Conditions of the Contract (A232–2019, as modified), and to satisfy other requirements, if any, which extend beyond final payment;

.2 all required documentation has been submitted to the Construction Manager and been reviewed and approved by Construction Manager and Architect and all sign-offs and/or approvals of any governmental agencies or any authorities with jurisdiction over the Work or Project have been obtained; and

~~.2 a final Certificate for Payment or Project~~ .3 a final Certificate for Payment has been issued by the ~~Architect.~~Construction Manager and Architect for the Contractor.

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

Architect's and Construction Manager's final Certificate for Payment for the Contractor.

~~**§ 5.2.2 Final Payment Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price**~~

~~§ 5.2.2.1 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 A232–2019, and to satisfy other requirements, if any, which extend beyond final payment;~~

~~.2 the Contractor has submitted a final accounting for the Cost of the Work, pursuant to Exhibit B, Determination of the Cost of the Work and a final Application for Payment; and~~

~~.3 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect in accordance with Exhibit B, Determination of the Cost of the Work.~~

~~§ 5.2.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment, or as follows:~~

§ 5.3 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.)*~~

~~%~~ greater of zero percent (0%) per annum or that specified and required by applicable law.

...

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~~§ 6.1 Initial Decision Maker~~

~~The Architect will serve as Initial Decision Maker pursuant to Article 15 of AIA Document A232–2019, unless the parties appoint below another individual, not a party to this Agreement, to serve as 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.)*~~

Litigation. All Claims or other disputes between the Parties to this Contract, concerning this Contract or any portion thereof or arising out of or relating to the Work performed or required hereunder, shall only be resolved by litigation before the courts of appropriate jurisdiction of the State of New York located in the County of Rockland. In connection with the foregoing, the Owner and Contractor hereby consent to the exclusive jurisdiction of the Supreme Court of the State of New York, County of Rockland, and waive any challenge to the venue or personal jurisdiction of such court.

~~§ 6.2 Binding Dispute Resolution~~

~~For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A232–2019, the method of binding dispute resolution shall be as follows:~~
~~*(Check the appropriate box.)*~~

~~[–] Arbitration pursuant to Article 15 of AIA Document A232–2019.~~

~~[–] 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.~~Notwithstanding anything to the contrary set forth in any of the Contract Documents, **arbitration shall not be a permitted form of dispute resolution for matters concerning this Contract or any portion thereof or any Claim or dispute relating thereto or arising out of or related to the Work performed hereunder**. Any references to arbitration in any of the Contract Documents shall be deemed severed from the Contract Documents and unenforceable. **Any and all Claims and disputes and other matters concerning this Contract or any portion thereof or arising out of or related to the Work performed hereunder shall only be subject to litigation as provided above in Section 6.1.**

§ 6.3 This Contract shall, in all respects, be subject to and construed in accordance with the laws of the State of New York without giving effect to the conflict-of-laws provisions thereof that would direct or refer the resolution of any issue hereunder to the laws of another jurisdiction.

~~§ 7.1 Where the Contract Sum is a Stipulated Sum~~

~~§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.~~

~~§ 7.1.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A232–2019, 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.)*~~

~~§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019.~~

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§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in the modified Article 14 of the General Conditions of the Contract (A232–2019, as modified) included herewith as a Contract Document.

§ 7.2 ~~Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price~~The Work may be suspended by the Owner as provided in the modified Article 14 of the General Conditions of the Contract (A232–2019, as modified) included herewith as a Contract Document.

~~§ 7.2.1 Termination~~

~~§ 7.2.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.~~

~~§ 7.2.1.2 Termination by the Owner for Cause~~

~~§ 7.2.1.2.1 If the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A232–2019, the Owner shall then only pay the Contractor an amount as follows:~~

~~.1 Take the Cost of the Work incurred by the Contractor to the date of termination;~~

~~.2 Add the Contractor's Fee, computed upon the Cost of the Work to the date of termination at the rate stated in Section 4.3.2 or 4.4.2, as applicable, or, if the Contractor's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion;~~

~~.3 Subtract the aggregate of previous payments made by the Owner; and~~

~~.4 Subtract the costs and damages incurred, or to be incurred, by the Owner under Article 14 of AIA Document A232–2019.~~

~~§ 7.2.1.2.2 When the Contract Sum is based on the Cost of the Work with a Guaranteed Maximum Price, if the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A232–2019, the amount, if any, to be paid to the Contractor under Article 14 of AIA Document A232–2019 shall not cause the Guaranteed Maximum Price to be exceeded, nor shall it exceed the amount calculated in Section 7.2.1.2.1.~~

~~§ 7.2.1.2.3 The Owner shall also pay the Contractor fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Contractor that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 7.2.1.2.1.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Contractor shall, as a condition of receiving the payments referred to in this Article 7, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Contractor, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such subcontracts or purchase orders. All Subcontracts, purchase orders and rental agreements entered into by the Contractor will contain provisions allowing for assignment to the Owner as described above.~~

~~§ 7.2.1.3 Termination by the Owner for Convenience~~

~~If the Owner terminates the Contract for convenience in accordance with Article 14 of AIA Document A232–2019, 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.)*~~

~~§ 7.3 Suspension~~

~~The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019; in such case, the Contract Sum and Contract Time shall be increased as provided in Article 14 of AIA Document A232–2019, except that the term "profit" shall be understood to mean the Contractor's Fee as described in Section 4.3.2 or 4.4.2, as applicable, of this Agreement.~~

§ 8.1 Any reference in this Agreement or the other Contract Documents to "AIA Document A232–2019 General Conditions", "General Conditions of the Contract (A232-2019, as modified)", "AIA Document A232–2019", "A232–2019 General Conditions", "A232–2019, as modified", "A232–2019", "General Conditions", or the like, shall

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be deemed to expressly refer to the modified AIA Document A232–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition (South Orangetown Central School District Modified Form – 2023) included as a Contract Document as provided in Section 9.1.3 below. Where reference is made in this Agreement to a provision of AIA Document A232–2019 or another Contract Document, the reference refers to that provision as amended or supplemented therein and/or by other provisions of the Contract Documents.

~~(Name, address, email address, and other information)~~
Gregory Kern, School Business Administrator
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

...

INPUT

...

§ 8.4 ~~Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.~~Owner may change its Owner's representative at any time by written notice to Contractor. Contractor's representative shall not be changed without ten (10) days' prior written notice to the Owner, Construction Manager, and Architect .

§ 8.5 ~~Insurance and Bonds~~Contractor represents and warrants the following to the Owner (in addition and without limitation to any other representations, warranties and/or guarantees contained in the Contract Documents) as an inducement to the Owner to execute this Contract and such representations and warranties shall survive any termination of this Contract and the final completion of the Work:

§ 8.5.1 ~~The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.~~Contractor and all of its Subcontractors are financially solvent, able to pay all debts as they mature and are possessed of sufficient working capital to complete the Work and perform all obligations under this Contract;

§ 8.5.2 ~~The Contractor shall provide bonds as set forth in AIA Document A132™–2019, Exhibit A, and elsewhere in the Contract Documents.~~Contractor is able to furnish all labor, material, plant, tools, supplies, and equipment required to complete all of the Work and perform all of its obligations under the Contract;

§ 8.5.3 Contractor is authorized to do business in the State of New York and the United States and is properly licensed by all governmental, public, and quasi-public authorities having jurisdiction over it and over the Work of the Contract;

§ 8.5.4 Contractor's execution of this Agreement and its performance hereunder is within its duly authorized powers; and

§ 8.5.5 Contractor possesses a high level of experience and expertise in the business administration, construction management, construction rules and regulations on public school property, and the superintendence on projects of the size, complexity and nature of this particular Project, and that it will perform the Work with the care and diligence of such a Contractor.

§ 8.6 ~~Notice in electronic format, pursuant to Article 1 of AIA Document A232–2019, 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.)*~~

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Insurance and Bonds

~~§ 8.7 Relationship of the Parties~~

~~Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.~~

~~§ 8.8 Other provisions:~~

§ 8.6.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in Exhibit A(Insurance and Bonds) to this Agreement, and elsewhere in the Contract Documents.

§ 8.6.2 The Contractor shall provide bonds as set forth in Exhibit A (Insurance and Bonds) to this Agreement, and elsewhere in the Contract Documents.

§ 9.1 ~~This Agreement is~~ The Contract Documents, except for Modifications issued after execution of this Agreement, are comprised of the following documents:

.1 The "Agreement" is this modified and executed AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition (South Orangetown Central School District Modified Form – 2023).

.2 ~~AIA Document A132™–2019,~~ Exhibit A, Insurance and Bonds ~~Exhibit~~.

.3 The modified AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition (South Orangetown Central School District Modified Form – 2023).

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

~~(Insert the date of the E203-2013 incorporated into this Agreement.)~~The "Project Manual" [IDENTIFY] which is incorporated herein by reference.

~~.5 Drawings~~.5 The "**Drawings**" which are listed in the Project Manual and are incorporated by reference. See also:

PAGE 8

See Section 000115	Drawing List	10/18/23

.6 ~~Specifications~~

~~Section~~	~~Title~~	~~Date~~	~~Pages~~

~~.7 Addenda, if any:~~The "**Specifications**" are as provided in the Project Manual and are incorporated by reference. See also:

~~Number~~	~~Date~~	~~Pages~~

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Section	Title	Date
See Section 000110	Table of Contents	10/18/23

~~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 A132™ 2019, Exhibit B, Determination of the Cost of the Work~~

~~[ ] AIA Document E235™ 2019, Sustainable Projects Exhibit, Construction Manager as Adviser Edition, dated as indicated below:~~
~~*(Insert the date of the E235 2019 incorporated into this Agreement.)*~~

~~[ ] The Sustainability Plan:~~

~~Title~~	~~Date~~	~~Pages~~

~~[ ] Supplementary and other Conditions of the Contract:~~ .7 The "**Addenda**", if any:

~~Document~~	~~Title~~	~~Date~~	~~Pages~~

Number	Date	Pages
IDENTIFY	IDENTIFY	IDENTIFY

~~.9 Other documents, if any, listed below:~~
.8 Other Exhibits, if any

~~(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A232 2019 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.)~~Exhibit 1 –Contractor's Bid Proposal is part of the Contract Documents (and is incorporated herein by reference). To the extent of any conflict between the Contractor's Bid Proposal and the other Contract Documents, the other Contract Documents, particularly, without limitation, this Agreement, shall control.

OWNER	CONTRACTOR
SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT	[IDENTIFY]

By: _____
~~OWNER~~ *(Signature)*

By: _____
~~CONTRACTOR~~ *(Signature)*

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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 14:35:01 ET on 10/17/2023 under Order No. 3104237670 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A132™ – 2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

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§1 CONTRACTOR'S INSURANCE

§1.1 The Contractor shall obtain, pay for and keep in full force and effect during the entire term of this Contract, and during the performance, final completion and acceptance of any Work, and after the term of this Contract (as may be specified herein), insurance, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, as designated by this Exhibit A and any other insurance required by applicable law, regulations, or orders of state, municipality or other entities having jurisdiction over the Work or the Project. Contractor shall not take any action or omit to take any action that would suspend or invalidate any of the required coverages during the period such coverages are required to be in effect. Acceptance and/or approval by the Owner of any insurance does not, and shall not be construed to, relieve Contractor of any obligations, responsibilities, or liabilities under this Exhibit A or elsewhere in the Contract.

§1.1.1 **Workers' Compensation (C-105.2 or U-26.3) and NYS Disability Insurance (DB-120.1).** and any other federal and/or state coverages as appropriate, including but not limited to: Occupational Disease Benefits, Voluntary Compensation, and Disability Benefits, for not less than the statutory requirements, for all employees; **and Employer's Liability Insurance** with limits not less than the statutory requirements or $1,000,000 (each accident), $1,000,000 (disease policy limit), and $1,000,000 (disease, each employee), whichever is greater.

Proof of coverage must be on the approved specific form, as required by the New York State Workers' Compensation Board. ACORD certificates are not acceptable.

§1.1.2 **Commercial General Liability Insurance** is to be provided under the Insurance Service Office's (ISO) most current form, on a project specific basis, with limits not less than the following:

Each Occurrence:	$2,000,000
General Aggregate (per project):	$4,000,000
Products and Completed/Operations:	$4,000,000
Personal & Advertising Injury:	$2,000,000
Fire Damage (any one fire):	$ 300,000
Medical Expense (any one person):	$ 5,000

The above required minimum insurance coverage limits may be satisfied through a combination of primary and Excess Liability and Umbrella Liability limits of insurance.

Such insurance shall include the following coverages, without limitation:

(i) claims for damages because of bodily injury, occupational sickness or disease, or death;
(ii) claims for damages insured by usual personal injury liability coverage;
(iii) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
(iv) premises operations;
(v) product liability and completed operations, and the policy shall specifically include coverage for three (3) years of extended completed operations coverage, which will commence immediately following the expiration date of the Commercial General Liability policy;
(vi) contractual liability covering liabilities assumed under the Contract (including the tort liability of another assumed in a contract), and including, coverage for claims arising out of construction or demolition operations when working within 50 feet of railroad track;
(vii) personal injury and advertising injury liability;
(viii) extended bodily injury coverage with respect to bodily injury resulting from the use of reasonable force to protect persons or property;
(ix) medical payments coverage;
(x) broad form property damage liability coverage, including coverage for completed operations;

(xi) explosion, collapse, and underground property damage (XCU);
(xii) construction means and methods;
(xiii) independent contractors;
(xiv) liability resulting from Section 240 or Section 241 of the New York State Labor Law; and
(xv) Owner and others identified herein as additional insured to be specifically evidenced as additional insureds via ISO Endorsements GC 2010 and CG 2037 or comparable forms, subject to Owner's acceptance in its discretion, with endorsements attached.

§1.1.3 **Comprehensive Auto Liability Insurance**, including uninsured/underinsured and medical payment protection, and including all owned, non-owned and hired autos, with a limit of liability of not less than $1,000,000 (combined single limit for personal injury, including bodily injury or death, and property damage). The required minimum limits may be provided through a combination of primary and Excess Liability and Umbrella Liability policies.

§1.1.4 **Umbrella/Excess Policy**, providing excess coverage in excess of the limits for Contractor's primary insurance policies for Commercial General Liability, Employers' Liability, and Auto, with such excess/umbrella coverage being at least as broad as each and every one of the underlying policies, with the provision that coverage shall extend for a period of at least three (3) years from the date of final completion and acceptance by Owner of all Work, and with a minimum limit for the excess/umbrella policy not less than that identified herein below. In the event the underlying policies have different renewal dates, the Contractor shall ensure that the underlying policies are maintained for the term specified in this Contract.

Umbrella/Excess Policy Minimum Limits as follows:

(i) $5,000,000 each occurrence and aggregate for Work that is at no elevation (i.e., 1 story – 10 feet) or Contract values less than or equal to $1,000,000.

(ii) $10,000,000 each occurrence and aggregate for Work at elevation (i.e., >1 story or 10 feet) or Contract values greater than $1,000,000.

§1.1.5 The minimum limits of insurance for Commercial General Liability, Automobile Liability, Employers' Liability, and Umbrella/Excess Liability required in Sections 1.1.1, 1.1.2, 1.1.3, and 1.1.4 may be satisfied through any combination of primary and Excess Liability and Umbrella Liability limits of insurance. If coverage limits are provided through Excess Liability and Umbrella Liability policies, then a Schedule of Underlying Insurance listing policy information for all underlying insurance policies (insurer, policy number, policy term, coverage and limits of insurance), including proof that the Excess Liability and Umbrella Liability insurance follows form, must be provided upon request.

§1.1.6 **Owners and Contractors Protective (OCP) Liability Insurance**.

(i) For contracts less than or equal to $1,000,000 and Work on 1 story (to10 feet) only - $1,000,000 per occurrence, $2,000,000 aggregate, with the Owner as the Named Insured.

(ii) For contracts greater than $1,000,000 and/or Work over 1 story (above 10 feet) - $2,000,000 per occurrence, $4,000,000 aggregate, with the Owner as the Named Insured.

(iii) The Owner will be the Named Insured on OCP Policies. There will be no Additional Insureds on any OCP Policies.

§1.2 All insurance shall be written on an occurrence basis. A copy of the additional insured endorsement shall be attached.

§1.3 Contractor's insurance shall, where available, be provided by an insurance carrier licensed or authorized to do business in the State of New York. Non-admitted carriers will be accepted when coverage cannot be secured from an admitted carrier. In all instances Contractor's insurance requirements shall be provided by an insurance carrier having an A.M. Best Rating of A(-)7 or better as determine in the most recent A.M. Best Publication. Contractor shall not provide any self-insurance pursuant to any self-insurance program.

§1.4 Insurance coverage to be provided by the Contractor shall state that the Contractor's coverage shall be "primary" and non-contributing to any insurances, including any deductible, maintained by, or provided to Owner or the other Additional Insureds; and shall contain a Waiver of Subrogation in favor of Owner and the other Additional Insureds, so that in no event shall the insurance carriers have any right of recovery against Owner, the other Additional Insureds, or the agents or employees of any of them; and shall contain a separation of insured provision (severability of interest clause). If the Owner or another Additional Insured has other insurance that is applicable to the loss, such other insurance shall be on an excess or contingent basis regardless of any "Other Insurance" clause contained in any parties' policy(ies) of insurance, if applicable.

§1.5 **Self-Insured Retention/Deductibles.** Certificates of Insurance must indicate the applicable deductibles or self-insured retentions for each listed policy. Deductibles or self-insured retentions above $100,000 are subject to approval by the Owner. Such approval shall not be unreasonably withheld, conditioned, or delayed.

In the event that any of the insurance coverage to be provided by the Contractor contains a deductible or self-insured retention, the Contractor shall indemnify and hold the Owner and any Additional Insured harmless from the payment of such deductible, which deductible shall in all circumstances remain the sole obligation and expense of the Contractor.

§1.6 **Subcontractors.** The Contractor shall require all Subcontractors to carry similar insurance coverages and limits of liability as set forth herein and adjusted to the nature of Subcontractors' operations and submit same to the Owner through the Construction Manager for approval prior to start of any Work (notwithstanding the preceding, without written agreement by Owner, Subcontractors' limits of liability coverage shall not, for any reason whatsoever, be less than $2,000,000 per occurrence and in the aggregate). In the event Contractor fails to ensure that any Subcontractor procures and maintains in full force and effect all insurance required by this Exhibit A and a claim is made or suffered, the Contractor shall, to the fullest extent permitted by law, indemnify, defend, and hold harmless the Owner and the Additional Insureds from any and all claims for which the required insurance would have provided coverage. These defense and indemnity obligations are in addition to any other defense and/or indemnity obligations provided in the Contract Documents and shall survive the completion or termination of the Contract.

§1.7 **Contractor's Pollution Liability (CPL).** If the Contract (or any Subcontract) involves abatement, handling, removal, repair, replacement, enclosure, encapsulation and/or disposal of any pollutants, which includes, but are not limited to, petroleum, petroleum products, hazardous materials or substances including asbestos, lead, fungus and those other materials as defined by applicable New York State and/or federal laws and regulations as being hazardous, or the need to monitor, clean up, remove, contain, treat, detoxify, or assess the effects of a pollution-related event or condition, the Contractor shall procure, or otherwise obtain through an approved Subcontractor, and maintain in full force and effect throughout the term of the Contract, and for three (3) years after completion of the Contract, Contractor's Pollution Liability Insurance, including coverage for non-owned disposal sites, with limits of not less than $2,000,000, providing coverage for bodily injury and property damage, including loss of use of damaged property or of property that has not been physically injured. Such policy shall provide, among other things, coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants, including any loss, cost or expense incurred as a result of any cleanup of pollutants or in the investigation, settlement or defense of any claim, suit, or proceedings against the Owner or any Additional Insured arising from the Contractor's Work. Without limitation to all other requirements for any CPL policy pursuant to this Exhibit A, the Owner and all other parties required by the Owner shall be named as Additional Insureds on any CPL policy on a primary and non-contributing basis.

This requirement applies to mold as well, if excluded in the Commercial General Liability Insurance policy.

If automobiles are to be used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage for covered automobiles (Endorsement CA 01 12 or its equivalent) as well as proof of MCS-90.

§1.8 The Contractor assumes responsibility for all injury or destruction of the Contractor's and Subcontractors' materials, tools, machinery, equipment, appliances, shoring, scaffolding, and personal property of Contractor's and Subcontractors' employees from whatever cause arises. Any policy of insurance secured covering the Contractor's or Subcontractors' property leased or hired by them and any policy of insurance covering the Contractor or Subcontractors against physical loss or damage to such property shall include an endorsement waiving the right of subrogation against the Owner for any loss or damage to such property.

§1.9 **Additional Insured/Certificate Holder.** The Contractor shall cause all insurance coverage required by the Contract (except for OCP) to include the following as Additional Insured:

(i) South Orangetown Central School District;
(ii) Members of the Board of Education of the South Orangetown Central School District;
(iii) CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C. d/b/a CPL;
(iv) The Palombo Group Inc.; and
(v) Any directors, partners, members, shareholders, officers, employees, successors, assigns, heirs, affiliates, agents, and representatives of each of the foregoing.

Contractor shall also add any other entities and/or individuals as may be required by Owner as Additional Insured.

The certificate holder shall be South Orangetown Central School District unless Owner requires otherwise.

Contractor shall provide an Additional Insured endorsement that expressly names each of the above identified Additional Insured (non-blanket) and shall ensure that the endorsement does not include language that requires an Additional Insured to have a written contract with the named insured for coverage to apply. Acceptance of an endorsement, in form and substance, shall be within the sole discretion of Owner. A completed copy of the endorsement shall be attached to the certificate of insurance.

§1.10 **Certificates of Insurance.** Certificates of Insurance acceptable to the Construction Manager and Owner and in accordance with New Yor State Insurance Law shall be provided to the Construction Manager and filed with the Owner prior to commencement of the Work.

A fully completed New York Construction Certificate of Liability Insurance Addendum (ACORD 855 2014/15) must be included with the certificates of insurance (policy exclusions may not be accepted).

Certificates of Insurance shall also: (i) disclose any deductible, self-insured retention, aggregate limit or any exclusion to the policy that materially changes the coverage required by the Contract, (ii) be signed by an authorized representative of the insurance carriers; and (iii) contain, without limitation, the following language in the Description of Operations/Locations/Vehicles section: *"Additional Insured protection afforded is on a primary and non-contributory basis. A waiver of subrogation is granted in favor of the Additional Insureds."*

There shall be no coverage restrictions and/or exclusions involving New York State Labor Law Statutes or gravity related injuries.

If any of the insurance coverages required by this Contract are required to remain in force after final payment, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment.

Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

Only original documents (Certificate(s) and any Endorsements or other attachments) or electronic versions of the same that can be directly traced back to the insurer, agent, or broker via e-mail distribution or similar means will be accepted.

The Owner has not requested that the Contractor submit copies of its entire insurance policies at the outset. Generally, the Owner only requests specific documentation regarding proof of insurance coverage, such as Certificates of Insurance and Endorsements. The Contractor is asked to refrain from submitting entire insurance policies, unless specifically requested by the Owner (which, if requested, shall be promptly delivered to Owner). If an entire insurance policy is submitted but not requested, the Owner shall not be obligated to review and shall not be chargeable with knowledge of its contents. In addition, submission of an entire insurance policy not requested by the Owner does not constitute proof of compliance with the insurance requirements and does not discharge the Contractor from submitting the insurance documentation required by this Exhibit A.

§1.11 **Notice of Cancellation or Non-Renewal.** Policies shall be written so as to include the requirements for notice of cancellation or non-renewal in accordance with the New York State Insurance Law. Within five (5) business days of receipt of any notice of cancellation or non- renewal of insurance, the Contractor shall provide the Owner with a copy of any such notice received from an insurer together with proof of replacement coverage that complies with the requirements of this Exhibit A.

§1.12 **Policy Renewal/Expiration.** Upon policy renewal/expiration, evidence of renewal or replacement of coverage that complies with the requirements of this Exhibit A shall be delivered to the Owner. If, at any time during the term of the Contract, or any extended period thereafter as required by the Contract, the coverage provisions and/or limits of the policies required herein do not meet the provisions and/or limits set forth in this Exhibit A, or proof thereof is not provided to the Owner, the Owner shall have the right to avail itself of all remedies available under the Contract, at law or in equity.

§1.13 **Deadlines for Providing Insurance Documents after Renewal or Upon Request.** As set forth herein, certain insurance documents must be provided to the Owner after renewal or upon request. This requirement means that the Contractor shall provide the applicable insurance document to the Owner as soon as possible but in no event later than the following time periods:

- For Certificates of Insurance: five (5) business days from request or renewal, whichever is later;
- For information on self-insured retention programs: fifteen (15) calendar days from request or renewal, whichever is later;
- For other requested documentation evidencing coverage: fifteen (15) calendar days from request or renewal, whichever is later;
- For Additional Insured and waiver of subrogation endorsements: thirty (30) calendar days from request or renewal, whichever is later; and
- For notice of cancellation or non-renewal and proof of replacement coverage that complies with the requirements of this section: five (5) business days from request or renewal, whichever is later.

Notwithstanding the foregoing, if the Contractor shall have promptly requested the insurance documents from its broker or insurer and shall have thereafter diligently taken all steps necessary to obtain such documents from its insurer and submit them to the Owner, the Owner shall extend the time periods set forth above for a reasonable period that shall in no event exceed thirty (30) calendar days from request or renewal, whichever is later.

§1.14 The Contractor acknowledges that its failure to obtain or keep current the required insurance coverage shall constitute a material breach of this Contract and subjects the Contractor to liability for damages the Owner (or others, including without limitation the other Additional Insured) sustains as a result of such breach. In addition, the Contractor shall be responsible to the fullest extent permitted by law for the indemnification of the Owner and all Additional Insured of any and all costs associated with such lapse in coverage, including but not limited to reasonable attorneys' fees (and this indemnification obligation shall survive the completion or termination of the Contract).

§1.15 The amount of insurance required by the Contract shall not be construed to be a limitation of the liability of on the part of the Contractor or any of its Subcontractors. The specification of any required minimum limits in this Contract shall not restrict the Owner from recovering additional proceeds of insurance to the extent that Contractor or Subcontractor maintains any policy(ies) of insurance with greater limits, and Contractor shall ensure that its insurance policies do not contain any such restriction on such recovery.

§1.16 No act or omission of any insurance agent, broker, or insurance company representative shall relieve Contractor of any of its obligations under this Contract.

§1.17 Notwithstanding anything in Section 2 of this Exhibit A and its subsections to the contrary, the Contractor shall provide insurance coverage for portions of the Work stored off the site, in transit, and stored on the site but not incorporated into the Work on a full replacement cost basis. The Contractor is responsible for all deductible amounts.

§2 OWNER'S PROPERTY INSURANCE

§2.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in the Contract Documents or until no person or entity other than the Owner has an insurable interest in the property required by this Section 2 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

> **§2.1.1** Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect's, Contractor's, and Construction Manager's services and expenses required as a result of such insured loss.
>
> **§2.1.2** If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles, unless the underlying loss is caused in whole or in part by Contractor or any of its Subcontractors or anyone for whom either of them are responsible, then, the Contractor shall pay such costs of deductibles.

§2.2 **Loss of Use Insurance.** The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

§2.3 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§2.4 If during the Project construction period the Owner insures properties, real or personal or both, adjoining 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, the Owner shall waive all rights in accordance with the terms of Section 2.5 of this Exhibit A for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§2.5 **Waivers of Subrogation.** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees of each of the other, and (2) the Construction Manager, Architect, Architect's consultants, separate contractors described in Article 6 of the A232 General Conditions as modified, 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 covered by property insurance obtained by the Owner pursuant to this Section 2 of Exhibit A, or other property insurance maintained by Owner applicable to the Work, except such rights as the Owner and Contractor may have to the proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, Owner's separate contractors described in Article 6, if any, and the Subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of the other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. To the extent that a waiver of subrogation is unavailable to the Owner, and the absence of such right of subrogation or the Owner's giving such a waiver would constitute a breach of its insurance policy, then as to the Owner this Section 2.5 shall be of no force or effect and no such waiver of subrogation shall be required of Owner.

§2.6 A loss insured under the Owner's property insurance 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 2.7. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§2.7 The Owner as fiduciary shall have power to adjust and settle a loss with insurers.

§3 BONDS (PERFORMANCE BOND AND PAYMENT BOND)

§3.1 The Contractor shall furnish a Performance Bond and Labor and Material Payment Bond each in an amount equal to one hundred percent (100%) of the Contract Sum meeting all statutory requirements of the State of New York, in form and substance satisfactory to the Owner and, without limitation, complying with the following specific requirements:

.1 Except as otherwise required by statute, the form and substance of such bonds shall be satisfactory to the Owner in the Owner's sole judgment;

.2 Bonds shall be executed by a responsible surety licensed in the jurisdiction of the Work with a Best's rating of no less than A/XII and shall remain in effect for a period not less than two (2) years following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer;

.3 The Performance Bond and the Labor and Material Payment Bond shall each be in an amount equal to the Contract Sum;

.4 The Contractor shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of thier power of attorney indicating the monetary limit of such power;

.5 Every Bond under this Section 3.1 of Exhibit A must display the surety's Bond Number. A rider including the following provisions shall be attached to each Bond:

(1) Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents. Such addition, alteration, change, extension of time, or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder and notice to the Surety of such matters is hereby waived.

(2) Surety further agrees that in event of any default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or Surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner, and the Owner shall have thirty (30) days from time after receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within thirty (30) days, unless a shorter cure time is prescribed by a particular provision in the Contract Documents that is identified in such notice, where, in such instance, said shorter cure period shall control. Such Notice of Default shall be sent by certified U.S. Mail, return receipt requested, first class postage prepaid, to the Construction Manager, Architect and the Owner in conformance with the written notice provision in the Contract Documents (A232-2019, as modified).

(3) Notwithstanding anything in the Bond to the contrary, the Performance Bond shall not contain a condition that any meeting must be scheduled among Owner, Contractor and its Surety, or any combination of them, prior to Owner declaring Contractor in default or prior to Owner terminating Contractor's Contract. Any such language in a Performance Bond shall be null, void and unenforceable.

(4) Surety and Contractor shall be liable for the additional costs and expenses incurred by the Owner in relation to the default of the Contractor including, but not limited to, additional costs and expenses claimed by the Architect and/or Construction Manager, and/or any other additional consultants' fees and disbursements, and reasonable attorneys' fees and expenses (and without limitation, also including attorneys' fees incurred in any appeals, or any enforcement of the obligations under the Bond, or enforcement of any judgment and collection hereunder).

§3.2 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 permit a copy to be made.

§3.3 The Contractor shall deliver the required bonds to the Owner prior to beginning construction activity at the site, but no later than seven (7) days after execution of the Contract. Said bonds shall be issued on form AIA Document A312-2010.

§3.4 The Owner may, in the Owner's sole discretion and without prior notice to the Contractor, inform surety of the progress of the Contractor's Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Contractor's Work.

§3.5 If the surety on any Bond furnished by the Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of this Section 3 of this Exhibit A, the Contractor shall within ten (10) days thereafter substitute another Performance and Payment Bond and surety, both of which must be acceptable to the Owner.

§3.6 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; and (3) request for final payment. Contractor shall promptly provide to surety any material, or documents, or information required by the surety. The Owner, Construction Manager, and Architect shall be notified by the Contractor, in writing, of all communications with the surety.

**** END OF EXHIBIT A – REMAINDER OF PAGE BLANK ****

SECTION 006000
PROJECT FORMS AND RELATED DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section lists the project forms used for administration of the project as well as documents used for administration and logistics.

1.2 FORMS

A. The following forms are contained within the conditions of the contract section:
1. FRONT END SUBMISSION LOG
2. PROJECT REQUEST FOR INFORMATION (RFI) FORM
3. SUBCONTRACTOR LIST
4. ALLOWANCE DISBURSEMENT FORM
5. SUBSTITUTION REQUEST FORM
6. SUBMITTAL COVER
7. INFORMATION BULLETIN
8. ELECTRONIC DOCUMENT TRANSFER AGREEMENT

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PROCEDURES

A. **Front End Submission Log**: This document is a checklist of the required submissions. Refer to Bidding Requirements, Section entitled “Instructions to Bidders” and Division 1, Specification Section entitled “SUBMITTAL PROCEDURES” for submission procedures.

B. **Project Request For Information (RFI) Form**: This form is to be used for information requests. The forms are filled out by any party to the contract and sent to the Architect/Engineer. The Architect/Engineer shall number RFI before processing.

C. **Subcontractor List**: This document is to be used identify subcontractors. The forms are filled out by each Prime Contractor for all proposed subcontractors and sent to the Architect/Engineer in accordance with. Division 1, section entitled “SUBMITTAL PROCEDURES”

D. **Allowance Disbursement Form**: the Architect/Engineer shall issue this document after all parties have agreed to the conditions of change to be charged to the Allowance Amount in accordance with Division 1, section entitled “ALLOWANCES”, if required.

E. **Substitution Request Form**: This document is to be used for a Contractor to propose substitutions. The forms are filled out by each Prime Contractor and sent to the Architect/Engineer in accordance with. Division 1, section entitled “SUBMITTAL PROCEDURES” and “PRODUCT REQUIREMENTS”.

F. **Submittal Cover**: This document is to be used for submittal submissions. The forms are filled out by each Prime Contractor and sent to the Architect/Engineer in accordance with. Division 1, section entitled “SUBMITTAL PROCEDURES”

G. **Information Bulletin:** The Architect/Engineer shall issue this document for 3 actions.

1. PROPOSAL REQUEST: A quotations for changes in the Contract Sum and / or proposed modifications to the Contract Documents

2. SUPPLEMENTAL INSTRUCTIONS: Instructions for changes to the Contract Documents without additional cost or time

3. CONSTRUCTION CHANGE DIRECTIVE: A directive to immediately proceed with changes to the work of the contract and to submit final cost for inclusion into a Change Order

H. **Electronic Document Transfer Agreement:** This document is used by a Contractor to request the transfer of electronic files, other than PDF's, for purposes including, but not limited to, creating coordination drawings.

END OF SECTION 006000

ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

FRONT END SUBMISSION LOG

SOCSD PHASE 1: 2022 BOND: 14457.20

Contractor Name: _____

SUBMISSIONS

Submission	Date Submitted	Date Approved	Remarks
Contract:			
Schedule of Values:			
Bonds:			
Insurance:			
Workers Compensation:			
Automobile Insurance:			
Safety Program:			
Schedule:			
Submittal Schedule:			
Emergency Contact:			
Substitution List:			
Subcontractor List:			
Project Manager:			
Superintendent:			

This log is to be used by the contractor to monitor and complete the required front-end submissions.

CPL
50 Front St., Suite 202
Newburgh, NY 12550
CPLteam.com
800.274.9000 TEL

ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

REQUEST FOR INFORMATION	RFI #:
	Date:

SOCSD PHASE 1: 2022 BOND: 14457.20

Contractor Name: _____

To: _____ Firm: _____

From: _____

WE REQUEST YOUR ATTENTION (OR CONFIRMATION) REGARDING THE FOLLOWING:

Subject: _____

_____

Location: _____

_____

Information is Requested By: _____

MESSAGE: _____

Contractors Name: _____

By: _____ Date: _____

CPL
50 Front St., Suite 202
Newburgh, NY 12550
CPLteam.com
800.274.9000 TEL

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ENGINEERING
PLANNING
CPLteam.com

SUBCONTRACTOR LIST

SOCSD PHASE 1: 2022 BOND: 14457.20

To: **CPL**
50 Front St., Suite 202
Newburgh, NY 12550

From:
(Contractor) _____

_____

Contractors
No.: _____

Contract For: _____

List Subcontractors proposed for use on this Project as required by the Construction Documents. Attach supplemental sheets if necessary.

Section
No.: _____ Section Title: _____
Firm
Name: _____ Contact: _____
Address: _____

Section
No.: _____ Section Title: _____
Firm
Name: _____ Contact: _____
Address: _____

Section
No.: _____ Section Title: _____
Firm
Name: _____ Contact: _____
Address: _____

Section
No.: _____ Section Title: _____
Firm
Name: _____ Contact: _____
Address: _____

Section
No.: Section Title:

☐ Attachment(s)

Signed by: _____ Date: _____

Copies: ☐ **Owner** ☐ **Consultants** ☐ File
☐ ☐ ☐

CPL
50 Front St., Suite 202
Newburgh, NY 12550
CPLteam.com
800.274.9000 TEL

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ALLOWANCE DISBURSEMENT AUTHORIZATION

Owner _____
Architect/Engineer _____
Contractor _____
Field _____
Other _____
Other _____

SOCSD PHASE 1: 2022 BOND: 14457.20

Allowance Disbursement No. _____ Initiation Date: _____

Contract For: _____

_____

To Contractor: _____

_____

Contract Date: _____

Not valid until signed by Owner, Construction Manager, Architect/Engineer and Contractor.

The Original Contract Allowance _____

Net Allowance Disbursements previously authorized _____

Charges to Contract Allowance as a result of this authorization

Current Contract Allowance Balance including this authorization _____

Owner: _____

Construction Manager:

Architect/Engineer: _____
(CPL)

Contractor:

CPL
50 Front St., Suite 202
Newburgh, NY 12550
CPLteam.com
800.274.9000 TEL

ARCHITECTURE
ENGINEERING
PLANNING
CPLteam.com

SUBSTITUTION REQUEST FORM

SOCSD PHASE 1: 2022 BOND: 14457.20

To:
CPL
50 Front St., Suite 202
Newburgh, NY 12550

From:
(Contractor) _____

_____

Re: _____ Substitution Request Number: _____

Contract For: _____

Specification Title: _____ Description: _____

Section Number: _____ Page: _____ Part/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: Address: Phone:

History: ☐ New product ☐ 2-5 years old ☐ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

☐ Point-by-point comparative data attached

Reason for not providing specified item: _____

_____

Similar Installation:

Project: _____ Architect/Engineer: _____

Contractor: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work:

☐ No

☐ Yes, explain _____

Savings to Owner for accepting substitution: _____ ($ _____)

Proposed substitution changes Contract Time:

☐ Yes; explain ☐ No ☐ Yes [Add] [Deduct] _____ days

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted By: _____

Signed By: _____

Firm: _____

Address _____

_____

_____

Phone: _____

Attachments: _____

_____

_____

REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 013300.

☐ Substitution approved as noted - Make submittals in accordance with Specification Section 013300.

☐ Substitution rejected - Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Signed By: _____ Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ Architect/Engineer ☐ _____

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Newburgh, NY 12550
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ENGINEERING
PLANNING
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SUBMITTAL COVER

(Attach to each submittal)

#
Submittal No. Contractor only

Architect Project Number: 14457.20
Contractors Number:
Project Name: PHASE 1: 2022 BOND

Contractor:
Address:
Phone / Fax: ( )

Date returned:

TYPE OF SUBMITTAL
(Check one)

☐ Product Data ☐ Color Selection ☐ O&M Manual
☐ Shop Drawings ☐ Sample ☐ Record Document
☐ Other

SUBSTITUTION ☐ YES ☐ NO
See General Conditions

DATE OF SUBMITTAL:

RESUBMITTED:

NUMBER OF ATTACHED:

PRODUCT IDENTIFICATION

Specification Section No.:
Contract Dwg. No.:
Product Name:
Part/Paragraph:
Detail Reference:
Manufacturer:

CONTRACTOR APPROVAL

Identify that this submittal has been reviewed and approved by the Contractor in accordance with the General Conditions

By: Date:

Deviation from Contract Documents:

Contractor Comments:

FOR USE BY CPL

SHOP DRAWING

☐ No Exception Taken ☐ Revise & Resubmit
☐ Furnish as Corrected ☐ Rejected

Corrections or comments made on the shop drawings during this review do not relieve the Contractor from compliance with the requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe satisfactory manner.

CPL

Date: By:

Architect's Comments:

RECEIVED STAMP

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INFORMATION BULLETIN

PROJECT: PHASE 1: 2022 BOND

INFORMATION BULLETIN NO.: _____

OWNER: SOUTH ORANGETOWN CSD

DATE: _____

CONTRACTOR: _____

ARCHITECT'S PROJECT NO.: 14457.20

DESCRIPTION: _____

CONTRACT NO.: _____

CONTRACT DATE:

ATTACHMENT(S):

A C T I O N

☐ 1. *PROPOSAL REQUEST:* Submit an itemized quotation for changes in the Contract Sum and/or time required to implement the above proposed modifications to the Contract Documents. This is not authorization to proceed with the work.

☐ 2. *SUPPLEMENTAL INSTRUCTIONS:* Implement the above instructions without change to the Contract Sum and/or Time. Prior to proceeding, indicate acceptance below and return one copy to the Architect.

☐ 3. *CONSTRUCTION CHANGE DIRECTIVE:* Proceed with the above described changes to the Contract Documents immediately. Submit final costs and/or change in Contract Time for inclusion in a subsequent Change Order.

Methods: ☐ Lump Sum ☐ Unit Price ☐ Time & Material Not-to-Exceed

Change in Contract Sum of _____

Change in Contract Time of _____ days

ISSUED:	ACCEPTED:	AUTHORIZED:
BY:_____	BY:_____	BY:_____
Architect Date	Contractor Date	Owner Date

☐ Owner ☐ Architect ☐ Structural ☐ Civil
☐ Contractor ☐ Field ☐ Mechanical/Electrical ☐ Other (Roofing)

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ELECTRONIC DOCUMENT TRANSFER AGREEMENT

DATE:		**PROJECT #:**	14457.20
PROJECT NAME	PHASE 2: 2022 BOND	**CLIENT / LOCATION**	SOUTH ORANGETOWN CSD
COMPANY REQUESTING AND RECEIVING FILES:		**PERSON REQUESTING:**	
DESCRIPTION OF FILES:		**REASON FOR FILES:**	

1. The requested electronic file(s) (the "Files") remain the property of and are owned by CPL.
2. The Files are not Contract Documents. The use of the Files to alter or revise the scope of work is not permitted.
3. CPL makes no warranties or guarantees that the Files represent or reflect the complete scope of work and/or as-built condition, and CPL assumes no responsibility for data files supplied in electronic format. Such data is provided as a courtesy only.
4. The Company requesting the Files and users of the Files accept full responsibility for verifying the accuracy and completeness of the Files.
5. Files in Revit/Building Information Model format: Unless express written consent of CPL is given through the implementation of a Project Building Information Modeling Protocol Form (AIA® Document G202™ or similar); the information contained within the Files was compiled for the purposes of creating the contract documents and are graphic representations of approximate locations of materials. Therefore, information contained within these files should not be assumed to be accurate and users of the Files accept full responsibility for verifying the accuracy and completeness of the Files with field conditions and the contract documents.
6. Shop drawings shall not be based on reproduction of the contract documents or standard printed data. This includes reproductions of the Files, unless express written consent is given of CPL through the implementation of a Project Building Information Modeling Protocol Form.
7. The Company requesting the Files agrees to defend, indemnify and hold harmless CPL, its officers, employees, consultants, and agents from any claims or damages arising from the use of the Files.
8. In the event that any of the Files contain electronic copies of drawings with permits or professional seals, the Company requesting the Files shall immediately notify CPL and destroy such Files.
9. No use shall be made of the Files for any purpose other than that for which they were originally intended without the express written consent of CPL.
10. No retransmission of the Files in any form to third parties is permitted unless authorized in writing by CPL.
11. The handling fee for the time and effort it will take CPL to deliver the requested Files is $150.00. Under no circumstances shall delivery of the Files be considered a sale by CPL.

Having read and understood the terms set forth in paragraphs 1-11 above, and in consideration of CPL providing electronic files, the undersigned agrees to be bound by these terms.

_____ _____

Signature of Authorized Representative Date

_____

Print Name and Title

The requested electronic files will only be released upon CPL's receipt of a signed Electronic Document Transfer Agreement by a duly authorized representative of the company requesting and receiving the files. CPL reserves the right to deny any request for copies of electronic files.

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Newburgh, NY 12550
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SECTION 007100
GENERAL CONDITIONS

PART 1 GENERAL

1.1 SUMMARY

A. The following is a Redline-Modified AIA Document A232 - 2019 “General Conditions of the Contract for Construction, Construction Manager – Advisor Edition (South Orangetown Central School District Modified Form – 2023)”. This Redline-Modified AIA Document A232-2019, is bound with this Section and is incorporated by reference into the Redline-Modified AIA Document A132 - 2019 “Standard Form of Agreement Between Owner and Contractor, Construction Manager-Adviser Edition, (South Orangetown Central School District Modified Form – 2023) as one of the contract documents forming the contract between Owner and Contractor .

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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AIA® Document A232® – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

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

2022 Bond Project – Phase 1
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

William O. Schaefer Elementary: 50-03-01-06-0-012-019
Cottage Lane Elementary: 50-03-01-06-0-010-022
Tappan Zee High School: 50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: 50-03-01-06-0-012-020
Cottage Lane Sound & Lockdown: 50-03-01-06-0-010-023
Cottage Lane Library Sound & Lockdown: 50-03-01-06-8-023-002
WOS Outdoor Classroom: 50-03-01-06-7-053-001
CLE Outdoor Classroom: 50-03-01-06-7-054-001
SOMS Outdoor Classroom: 50-03-01-06-7-056-001
TZHS Outdoor Classroom: 50-03-01-06-7-055-001

THE CONSTRUCTION MANAGER:

The Palombo Group Inc.22 Noxon St.
Poughkeepsie, NY 12601

THE OWNER:

SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT
160 Van Wyck Road
Blauvelt, NY 10913

THE ARCHITECT:

CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C. d/b/a CPL
50 Front Street
Suite 202
Newburgh, NY 12550

The purpose of the "redline" revisions in this document are to amend, supplement and/or void portions of the AIA standard form document. Strikethrough shall indicate deletion and severing of language from the AIA standard form document, and underline shall indicate addition to the AIA standard form document. The final Contract, which will be prepared from this "redline" form, may finalize the document to effect such revisions without showing "redline".

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ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as 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 necessary information and 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 Documents A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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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.

§ 1.1.2 The "Contract". The Contract Documents form the "Contract" (sometimes referred to as 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 in a written instrument signed by Owner, or in the case of a written order for a minor change in the Work by the Architect. 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 the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance by Contractor and enforcement of obligations against Contractor under the Contract intended to facilitate performance of their 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 other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 "Contractors". Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager. Contractors may be referred to in other Contract Documents as "Multiple Prime Contractors" or "Prime Contractors".

§ 1.1.5.1 With regard to other Contractors on the Project, SEE SPECIFICATIONS – MULTIPLE CONTRACT SUMMARY – SECTION 011200.

§ 1.1.6 "Separate Contractors". Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 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.

§ 1.1.8 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.

§ 1.1.8.1 The Specifications may describe (or the Drawings may show) the general placement required of materials or equipment, but the actual required placement may vary depending on the specific material or equipment used by the Contractor or the existing field conditions. The Contractor shall bear all direct and indirect costs associated with such variations.

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§ 1.1.8.2 Some Specifications may be written in a condensed outline form and omitted words shall be included by reference. If the Specifications identify a task, it shall mean the "Contractor shall furnish, install and complete" the identified task unless otherwise stated.

§ 1.1.8.3 Reference to standard specifications, manuals or codes shall mean reference to the latest standard specification, manual or code in effect at the time of the execution of the Contract, unless otherwise expressly stated. When reference is made to a manufacturer, trade association, reference standard or similar source (such as ASTM, ASA, AISC, ACI, etc.) the standards or requirements of such entity shall be incorporated into the Specifications and have the force and effect as though they were set forth fully and expressly therein. Upon entering into the Contract, the Contactor acknowledges its familiarity with those references, codes, etc. The date of the referenced standard shall be the latest edition in effect at the time of the execution of the Contract unless otherwise expressly stated.

§ 1.1.9 **"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.

§ 1.1.10 **"Project Manual".** The Project Manual is the volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 1.1.11 The expression "reasonably inferable" and similar terms in the Contract Documents as applied to Contractor shall be interpreted to mean reasonably inferable by a contractor with experience on projects of similar size and scope and other attributes of this Project exercising reasonable care, skill, and diligence.

§ 1.1.12 Nothing in the Contract Documents shall relieve Contractor from its requirement to comply with all applicable statutory requirements and other governmental or qausi-governmental codes, rules and regulations, including, without limitation, those contained in New York State Education Law §3813.

§ 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. Items not expressly included in the Contract Documents, but which are reasonably inferable therefrom as being necessary to produce the indented results shall be deemed included in the Work. 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 to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results as provided herein. Contractor acknowledges and agrees that the Contract Documents are adequate and sufficient to provide for the completion of the Work, and include all Work, whether or not shown or described, which may be reasonably inferred to be required or useful for the completion of the Work in accordance with all applicable federal, state, and local statutes, laws, codes, rules, regulations, requirements, and lawful orders of public authorities in effect during the term of the Contract and applicable to the Work. Without limitation, the Work includes all labor, materials, equipment and services necessary to satisfy all governmental conditions including but not limited to obtaining permits. In the event that there is a conflict, discrepancy, ambiguity, and/or unclear circumstances between or among any terms, conditions, or requirements of the Contract Documents, those that provide for the most inclusive, highest quality, highest quantity, highest cost, and/or most stringent requirements and/or obligations on the part of the Contractor shall apply and be provided or performed by Contractor at no extra compensation to Contractor (no increase in the Contract Sum) and/or no extension of the Contract Time.

§ 1.2.1.1 Whenever any additional materials and/or workmanship not shown or specified in the Contract Documents are required to complete the Work of the Contract Documents in accordance with the intent thereof, the Contractor shall provide these materials and workmanship at no additional cost to the Owner.

§ 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. It shall be Contractor's responsibility to settle definitely with each Subcontractor the portions of the Work that each will be required to perform, and the Owner, Construction Manager, and Architect assume no responsibility whatsoever for any jurisdiction claimed by any of the Contractor's Subcontractors involved in the

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Work. The Contractor shall, subject to the other terms of the Contract Documents, provide each item listed, of quality noted and subject to qualifications noted, and shall perform operations prescribed according to the conditions stated, furnishing therefore all necessary labor, materials, equipment, and incidentals required to complete the Work. Contractor represents that the Subcontractors, manufacturers and suppliers engaged or to be engaged by it are and will be familiar with the requirements for performance by them of their obligations.

§ 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 The Contractor represents that prior to execution of the Contract, it has consulted with an attorney, that the attorney has reviewed all of the Contract Documents and that the Contractor has signed the Contract Documents only after such consultation with its attorney. Accordingly, the maxim that this Contract shall be construed against the Party who drafted it shall not apply to the interpretation of this Contract or any of the Contract Documents.

§ 1.4.2 Severability. The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. In the event that any term or provision, or part thereof, of this Contract or any of the Contract Documents is held to be illegal, invalid or unenforceable under applicable law by a court of competent jurisdiction pursuant to the terms of this Contract, such term or provision, or part thereof, shall be deemed ineffective to the extent of such illegality, invalidity, or unenforceability only and severed from the Contract Documents and the remaining term(s) and provision(s) shall remain unaffected thereby. 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.

§ 1.4.3 Captions. Titles or captions or headings of Articles, Sections, and Exhibits contained in the Contract Documents are inserted only as a matter of convenience and for reference, and in no way define, limit, extend or describe the scope of the Contract Documents or the intent of any provision hereof.

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

§ 1.5.1 With regard to the Contractor, and any Subcontractors, sub-subcontractors, and suppliers, and without limitation and subject to all rights granted to Owner in its contract with the Architect regarding the Instruments of Service, including the Drawings and Specifications, 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. In all instances, 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 reserved rights of the Owner, and/or the Architect or Architect's consultants as may be provided in the Owner's contract with the Architect.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them 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 without the specific written consent of the Owner, and the Architect, and the Architect's consultants as relevant.

§ 1.5.3 Notwithstanding the preceding Sections 1.5.1 and 1.5.2, nothing contained this this Section 1.5 or elsewhere in the Contract Documents shall modify the rights granted to Owner by Architect in relation to the Instruments of Service as set forth in the separate agreement between Owner and Architect.

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§ 1.6 Notice

§ 1.6.1 Notwithstanding anything to the contrary elsewhere in the Contract Documents, except as otherwise provided in Section 1.6.2, all notices to be given pursuant to any provision of this Contract shall be in writing and shall be deemed to have been duly given or delivered: (i) if delivered by hand during business hours to the addresses indicated below against a signed receipt, upon delivery; (ii) if deposited with a nationally recognized and reputable overnight delivery service for overnight delivery to the addresses indicated below, upon one (1) business day following deposit with such overnight delivery service (with receipt of such deposit); (iii) if by certified mail, return receipt requested, postage prepaid addressed to the addresses below, upon four (4) days after it is posted with the United States Postal Service; or (iv) if delivered by email to the email address of the Party to be notified as indicated herein (except where such email notice is disallowed by Section 1.6.2), upon the sending of such email if during business hours, and if after business hours on the next business day. All such notices shall be delivered to:

(i) if to Owner, addressed to:

The OWNER'S REPRESENTATIVE at the address (or email address where allowed) set forth in SECTION 8.2 of the AGREEMENT (A132-2019, as modified).

with a copy to Construction Manager:

THE PALOMBO GROUP INC.
22 Noxon St.
Poughkeepsie, NY 12601
Attn: Luis Rodriguez, Project Executive
Email: lrodriguez@thepalombogroup.com

with a copy to Architect (if indicated by a particular, relevant section in the Contract Documents regarding the notice):

CPL
50 Front Street, Suite 202
Newburgh, NY 12550
Attn: Lauren Tarsio
Email: ltarsio@CPLteam.com

and

(ii) if to Contractor, addressed to:

The CONTRACTOR'S REPRESENTATIVE at the address (or email address) set forth in SECTION 8.3 of the AGREEMENT (A132-2019, as modified).

If notice is tendered under the provisions of this Section 1.6.1 and is refused by the intended recipient of the notice, the notice shall nonetheless be considered to have been given and shall be effective as set forth above. Written notice from the Contractor to the Owner shall further be deemed only given or delivered on the latest date upon which all of Owner, Construction Manager, and Architect (where Architect is required to receive notice) have been provided notice as required herein. If the Construction Manager or Architect are replaced or a notice address or representative changes, Owner or Construction Manager or Architect shall provide notice to Contractor of such change.

§ 1.6.2 Notwithstanding anything in Section 1.6.1 or elsewhere in the Contract to the contrary, THE FOLLOWING WRITTEN NOTICES FROM CONTRACTOR TO OWNER SHALL ONLY BE PROVIDED BY EITHER (a) overnight courier, or (b) US certified mail, return receipt requested - each pursuant to the requirements in Section 1.6.1: (i) any notice of Claims pursuant to Article 15 herein, (ii) any notice with respect to termination under Article 14 herein, (iii) any notice regarding Hazardous Materials pursuant to Article 10 herein, (iv) any notice under Section 9.7 herein, (v) any notice under Section 8.6 (and its subparts) herein, (vi) any notice under Section 8.3.2 (and its subparts) herein, and (vii) any notice under Section 3.7.4 herein. Without limitation to the preceding, notice by email or hand delivery is expressly not allowed for the types of notices described herein this Section 1.6.2, and, if so provided shall be deemed null and void and not provided even if actually received by the Owner.
(Paragraphs deleted)

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§ 1.6.3 Under no circumstances shall any reports, minutes, logs, schedule updates, or other information or documents required to be submitted by the Contractor to the Construction Manager and/or Architect be deemed a written notice to Owner in any regard.

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 South Orangetown Central School District is the Owner and the Board of Education of the South Orangetown Central School District shall be the only entity with authority to bind the Owner or provide approval or authorization on behalf of the Owner as required by law and/or the policies and procedures of the South Orangetown Central School District unless Contractor is notified otherwise in writing signed by the Owner. Except as otherwise provided herein or in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative. Notwithstanding anything in this Section 2.1.1 or elsewhere in the Contract Documents to the contrary, with respect to any Claim by Contractor, or any Claim or other request or demand for a Change Order, or any Claim or other request or demand for an extension of the Contract Time or upward adjustment of the Contract Sum, any rejection of such Claim or other request or demand, either in whole or in part, made by Construction Manager or the Architect to Contractor shall be deemed to have been made by the Owner unless such rejection expressly sets forth in writing to the contrary.

(Paragraph deleted)

§ 2.2 Evidence of the Owner's Financial Arrangements – Intentionally Omitted.

(Paragraphs deleted)

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 With the exception of the building permit, all permits and fees, approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities are the responsibility of the Contractor under the Contract Documents. Contractor's Contract Sum shall include all fees and other costs for securing and maintaining (by Contractor and its Subcontractors) for the duration of the Project in relation to the Work: all permits, PE licenses, connection fees, inspections, etc., applicable to, or customarily secured for the Work. This provision includes, without limitation, any permits to be issued in the name of the Contractor as required for the Work. The Contractor shall furnish Construction Manager and Architect or Owner with original copies of all permits prior to the commencement of Work and shall prominently display a copy of all permits at a location agreed upon with the Construction Manager or Owner. See also Section 3.7 herein below.

§ 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 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 It is expressly agreed and understood that at any time during the progress of the Project, the Architect and/or Construction Manager may be terminated and that such termination shall not for any reason whatsoever be deemed a breach of this Contract. If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect within a reasonable time whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 2.3.5 If reasonably requested by the Contractor in writing, 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.

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Notwithstanding the provision of this information, if provided, the Contractor shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.6 Following receipt of a written request from the Contractor, 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 under the Owner's control which is necessary and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's reasonable written request for such information.

§ 2.3.7 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor two (2) copies of the Contract Documents for purposes of making reproductions. Any and all additional copies will be furnished to Contractor at its own expense (including the cost of reproducing, postage and handling).

(Paragraph deleted)

§ 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 fails to carry out Work in accordance with the Contract Documents, **or fails or refuses to provide a sufficient amount of properly supervised and capable labor, materials, or equipment so as to permit the Owner to reasonably infer that the Contractor will not be able to complete the Work within the Contract Time, or fails to remove, bond or discharge (within the time required by and otherwise in conformance with Section 9.6.8 herein below) any lien filed upon or against Owner's property or against the Project funds by anyone claiming by, through, or under Contractor, or disregards the instructions of Construction Manager, Architect or Owner when such instructions are based upon the requirements of 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 to the Owner's satisfaction in its discretion; 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 its benefit or the benefit of the Contractor or any other person or entity.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with or is otherwise in default of any term of the Contract Documents and fails within a three (3) day period after delivery of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness (to the satisfaction of Owner in its discretion), the Owner may at the end of such three (3)day period with no further notice required, without prejudice to other remedies the Owner may have, correct such default or neglect. Contractor shall be liable to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Construction Manager's and Architect's and their respective consultants' additional services, and also including, without limitation, the Owner's reasonable attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), and all other reasonable expenses made necessary by or arising out of or relating to such default, neglect, or failure. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the costs and damages reimbursable to Owner as described hereinabove. Likewise, Architect may also, 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 Owner the costs and damages reimbursable to Owner as described hereinabove. 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 make a Claim pursuant and subject to to Article 15. The right of the Owner to stop and carry out the Work (or any portions thereof) pursuant to this Section 2.5 shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

§ 2.6 Owner's Right to Audit. Contractor shall keep full and accurate records of all costs incurred and items billed in connection with the performance of the Work, which records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until seven (7) years after final payment. In addition, the Contractor shall make it a condition of all subcontracts relating to the Work that any and all Subcontractors will keep accurate records of costs incurred and items billed in connection with their Work and that such records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until seven (7) years after its completion.

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§ 2.7 Owner's rights stated in this Article 2 are cumulative and in addition to and are without limitation to any rights of the Owner granted elsewhere in the Contract Documents, or at law or in equity. Further, it is expressly understood that notwithstanding any of the rights and authority granted the Owner in this Article 2 or elsewhere in the Contract Documents, in no event shall the Owner, Construction Manager or Architect have control over, charge of, or any responsibility for construction means, methods, techniques, sequences, procedures, or for safety precautions and programs in connection with the Work, all of which are the right, obligation, and responsibility of Contractor.

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 Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Submission of its bid to the Owner and subsequent execution of the Contract by the Contractor is a representation that the Contractor has carefully examined the Contract Documents and has visited and has performed a detailed investigation of the site, become thoroughly familiar with the nature and local conditions under which the Work is to be performed (including but not limited to: (i) the condition, layout, and nature of the Project site and surrounding areas, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, and (iv) availability and cost of materials, tools, and equipment) and all matters that may in any way affect the Work or its performance, and correlated personal observations and investigations with requirements of the Contract Documents. Submission of its bid to the Owner and subsequent execution of the Contract by the Contractor is a further representation that the Contractor has carefully examined the Contract Documents (with such review in Contractor's capacity as a contractor and not a design professional unless otherwise specifically provided in the Contract Documents) and that any errors, omissions, ambiguities, discrepancies or conflicts found in the Contract Documents have been brought to the attention of the Architect for clarification prior to the Contractor's submission of its bid. The Contractor further represents that as a result of its examinations and investigations, the Contractor thoroughly understands the Contract Documents and their intent and purpose and is familiar with all federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities as they apply to the Work, and that the Contractor will abide by same. The Owner assumes no responsibility or liability for the physical condition or safety of the Project site or any other improvements located on the Project site. As required by this Contract, the Contractor shall be responsible for providing a safe place for the performance of the Work. Claims for extension of the Contract Time or additional compensation (i.e., increase in the Contract Sum) as a result of the Contractor's failure to follow the foregoing procedures and to familiarize itself with all local conditions and the Contract Documents shall not be allowed.

§ 3.2.1.1 The Contractor is deemed to be a qualified expert in the systems and construction requirements of the Work of its Contract. The Contractor hereby specifically acknowledges and declares that the Contract Documents are full and complete, are sufficient to have enabled it to determine the cost of the Work and that the Drawings, the Specifications and the Addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with all federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities as they apply to the Work, and otherwise to fulfill all of its obligations under the Contract Documents. In addition, if the Contractor performs any construction activity while it knows or should have known that any of the Contract Documents contains an error, inconsistency or omission, the Contractor shall be responsible for such performance and shall bear the costs for correction thereof.

§ 3.2.1.2 The Contractor shall rely on its own knowledge and its review and interpretation of the Contract Documents and data provided in entering into the Contract and not the representations of the Owner or other persons. The

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Contractor acknowledges that quantities provided in the Contract Documents are estimates only and Contractor shall not seek additional compensation or adjustment in price based on a variation in actual quantities.

§ 3.2.1.3 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 increase in the Contract Sum or extension of the Contract Time for discrepancies between the Work as shown in the Contract Documents and existing conditions.

§ 3.2.1.4 The locations, depths, and data as to underground conditions have been obtained from records, surface indications and data furnished by others. 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 verify all existing conditions prior to commencing the Work. The Contractor shall make no Claim with respect to the accuracy or completeness of such information if the conditions found after commencement of the Work are different from those as indicated.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before ordering any materials and 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 any information furnished by the Owner, 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 and otherwise verify all field conditions. Contractor shall be responsible for the correctness of all measurements. Contractor shall carefully compare such field measurements and conditions and other information known or provided or available to the Contractor with the Contract Documents before commencing activities. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors or omissions in the Contract Documents; however, the Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered by, made known to, or that should have been discovered by the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and Architect may require before commencing activities. 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. Any errors or defective Work due to the Contractor's failure to so verify all conditions and all grades, elevations, locations, and dimensions shall be promptly rectified by the Contractor without any additional cost to the Owner.

§ 3.2.2.1 The accuracy of grades, elevations, dimensions, or locations of existing conditions is not guaranteed by the Construction Manager, Architect or Owner, and the Contractor is responsible for verifying same. No increase in the Contract Sum or extension of the Contract Time will be allowed on account of differences between actual measurements and the dimensions indicated on any Drawings or elsewhere in any Contract Documents nor for Contractor's failure to coordinate Work with actual field measurements. Any difference that may be found shall be submitted to the Construction Manager and Architect for resolution before proceeding with the Work. The Contractor shall assume full responsibility for accuracy of measurements obtained at the site.

§ 3.2.2.2 If a minor change in the Work is found necessary due to actual field conditions, the Contractor shall submit through the Construction Manager detailed drawings of such departure for the approval of the Architect before making the change.

§ 3.2.2.3 In case of omissions or discrepancies between the Contract Documents, the Contractor shall secure instructions from the Architect through the Construction Manager before proceeding with the Work affected by omissions or discrepancies. The Contractor shall assume full responsibility and cost for proceeding with such Work without approval.

§ 3.2.2.4 During the course of Work, should any errors, omissions, ambiguities, discrepancies or conflicts be found on the Drawings or in the Specifications to which the Contractor has failed to call attention before submitting its bid, the Architect through the Construction Manager shall interpret the intent of the Drawings and Specifications and the Contractor hereby agrees to abide by the Architect's interpretation and agrees to carry out the Work in accordance with the decisions of the Architect with no increase in the Contract Sum and with no extension of the Contract Time.

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§ 3.2.2.5 Salvageable Materials. All existing materials, equipment, or other items scheduled for demolition or permanent removal are the property of the Owner. If requested, Contractors will remove and store any such items to a location designated by the Owner.

§ 3.2.3 The Contractor in its review of the Contract Documents as required herein shall promptly report to the Construction Manager and Architect any nonconformity of the Contract Documents with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require; it being understood 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.

§ 3.2.4 If the Contractor believes that it is entitled under the Contract Documents to either or both of an increase in the Contract Sum or extension of the Contract Time 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 and its subsections 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 and its subsections 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.

§ 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 written notice to the Owner, the Construction Manager, and the 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. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.1.1 All loss, damage, liability, or cost of correcting defective Work arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor notwithstanding that such construction means, methods, techniques, sequences or procedures may be referred to, indicated or implied by the Contract Documents; it being understood that in no event shall the Owner, Construction Manager or Architect have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work.

§ 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 the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor shall inspect all materials as delivered to the site and shall reject any materials that will not conform to the Contract Documents when properly installed.

§ 3.3.5 The Contractor shall be responsible for and coordinate any and all inspections required by any governmental or other authorities having jurisdiction over the Work. Failure to obtain any permits, licenses or other approvals because of the failure of the Contractor to conform to this requirement shall not extend the Contract Time, and the Contractor shall not be entitled to any increase in the Contract Sum therefore. In addition, any additional costs and/or expenses of any nature incurred by the Owner as a result of the Contractor's failure to conform to this requirement shall constitute a charge against the Contractor's Contract payable to Owner.

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§ 3.3.6 Contractor shall perform all Work in accordance with all requirements of all federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities as they apply to the Work.

§ 3.3.7 During periods of active construction, Contactor shall consult daily and cooperate with the Construction Manager, Architect and Owner. On a continuous and daily basis, Contractor shall keep the Construction Manager, Architect and Owner notified of when Work will be starting, restarting, suspended and temporarily or permanently concluding.

§ 3.3.8 Contractor shall attend all meetings, at a minimum on a weekly basis, as required by the Owner and/or the Construction Manager or Architect to be held at a location as may be determined by Construction Manager or Owner. These meetings will be held to arrange for the satisfactory performance of the Work of this Contract and/or the coordination of all Contractors on the Project so as not to impede the progress of the Project. Failure of Contractor to attend said weekly (at a minimum) meetings shall be deemed a material breach of this Contract. Contractor shall be responsible for all delays and/or expenses incurred for failure to attend meetings and any coordination difficulty resulting therefrom.

§ 3.3.9 Contractor shall produce, maintain, and provide copies of its daily construction logs and reports to the Construction Manager. Unless otherwise specified elsewhere in the Contract Documents, these reports shall be submitted no later than 10:00 am the following workday. The daily reports shall be for Construction Manager's information and provide detailed information as required by the Construction Manager concerning the Contractor's activities and operations only. If any type of 'daily construction' form is provided by Construction Manager for purposes of compliance with this section, such form shall be used by Contractor. Notwithstanding anything to the contrary elsewhere in the Contract Documents, under no circumstances shall any daily construction reports be deemed a written notice by Contractor to Owner for any written notices required to be given to Owner under this Contract, including, without limitation, the written notices identified in Section 1.6.2 of this A232-2019, as modified.

§ 3.3.10 Unless otherwise requested by Construction Manager, or specified elsewhere in the Contract Documents, Contractor shall submit to Construction Manager two-week look ahead schedules identifying the anticipated activity and material needs for all of the Work scheduled to be performed by the Contractor and its Subcontractors for the identified time period. The Contractor shall keep this schedule current and provide reports to the Construction Manager at least every two weeks concerning the actual performance and activity compared to the two-week look ahead. If a form is provided by Construction Manager for the purpose of compliance with this section, such form shall be used by Contractor. Notwithstanding anything to the contrary elsewhere in the Contract Documents, under no circumstances shall any schedules, or updated schedules, or any documentation or information relating to same be deemed a written notice by Contractor to Owner for any written notices required to be given to Owner under this Contract, including, without limitation, the written notices identified in Section 1.6.2 of this A232-2019, as modified. See also, without limitation, Section 3.10 (and its subsections) and Article 8 of this A232-2019 (as modified).

§ 3.3.11 Notwithstanding anything to the contrary elsewhere in the Contract Documents, in addition to the Owner's right to take Work away (set forth in Section 2.5), if Contractor fails to keep the site clean, the Construction Manager or Owner may, at Owner's option and without notice to Contractor, have this Work performed and back charged. For purposes of this section, notwithstanding anything contained to the contrary in the Contract Documents, verbal notice to field personnel is deemed notice to the Contractor. Owner's rights pursuant to this paragraph shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

§ 3.3.12 Contractor shall allow sufficient time to inspect and accept the Work of other Contractors on the Project and Owner's Separate Contractors. Should any discrepancies be discovered, the Contractor shall provide written notice to Construction Manager sufficiently in advance so that Construction Manager and Architect may have sufficient time to review same and corrective action can be taken (by all necessary parties) without affecting the progress of any other Contractors or Separate Contractors or the Work.

§ 3.3.13 Unless otherwise requested by Construction Manager or specified elsewhere in the Contract Documents, within one (1) week after issuance of a Notice to Proceed or commencement of Work, whichever is earlier, Contractor shall provide two (2) copies of a video-taped recording of all existing conditions to the Construction Manager. This video shall provide a record of all relevant existing buildings, grounds, exterior conditions and interior conditions

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which many be affected by the Work. Contractor shall schedule a representative of both the Contractor and the Construction Manager to be present at this taping. In the absence of this video record made in strict conformance with the terms of this section, the Contractor shall be estopped from asserting that any damage to existing conditions/property was to any extent pre-existing when Owner or the Construction Manager asserts that such damage was caused by Contractor.

§ 3.3.14 Contractor must exert due care and diligence when working in or near any existing buildings or site work which is to remain. The absence of protection around such items shall not excuse the Contractor from its responsibility to provide protection. In addition and without limitation to Contractor's obligations in Section 3.18 (and its subsections) herein below and any other obligations of Contractor elsewhere in the Contract Documents or at law or in equity, any damages to any existing buildings or site work or facilities arising out of or relating to the acts or omissions of the Contractor or any of its Subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them are liable shall be repaired by the Contractor at its sole cost and expense and if Contractor cannot repair the same, it shall bear the cost thereof. The obligations of this section shall survive the final completion of the Work and/or this Contract or the termination of the Contract.

§ 3.3.15 All disconnect and/or tie-in Work involving any utilities that would interfere with the ongoing operations of the Owner shall be completed on an after-hours basis. The performance of this Work shall be projected on the required schedules and the Construction Manager, Architect, and Owner are to be notified at least forty-eight (48) hours in advance of commencing this Work. All overtime and standby personnel necessary to complete these tie-ins shall be the responsibility of the Contractor.

§ 3.3.16 In the event that Owner makes arrangements to open a building at the request of Contractor and the Contractor does not appear at the designated time and location, the Contractor shall, notwithstanding anything to the contrary elsewhere in the Contract, including, without limitation, Section 15.1.7, pay the Owner for all costs incurred relating to the opening of said building for Contractor.

§ 3.3.17 Contractor shall, immediately upon request, provide to Owner and Construction Manager, as either of them may request, copies of all correspondence, memoranda and bulletins to and from the Construction Manager, Architect, Subcontractors, suppliers, public agencies and other authorities with jurisdiction over the Work or the Project, and others on the Project, in PDF digital format or such other form as Owner or Construction Manager may request in their discretion.

§ 3.3.18 Contractor agrees that it shall not permit any unauthorized persons or entities to visit or enter upon the Project site absent Construction Manager's or Owner's prior written approval.

§ 3.3.19 Contractor shall arrange for protection to secure the Work site against physical damage, theft, and vandalism and arrange for protection of adjoining property from damage.

§ 3.3.20 If relevant to the Work, Contractor shall develop methods of dust and fume control so as to comply with applicable legal requirements. Compliance with New York Labor Law §222-a (regarding prevention of dust hazards in public work) is strictly required if applicable to the Work of this Contract, and noncompliance shall, among other things, be a material breach of this Contract, for which Owner may terminate for cause, without any ability for Contractor to cure notwithstanding anything elsewhere in the Contract to the contrary.

§ 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. The Contractor shall check all materials and labor entering into the Work site and shall keep full detailed accounts thereof.

§ 3.4.2 Equivalents and Substitutions.

§ 3.4.2.1 The materials, products and equipment described in the Contract Documents establish the standard of required quality, function, dimension and appearance expected.

§ 3.4.2.2 Equivalents and Substitutions shall only be permitted as provided in the Contract Documents –

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SPECIFICATIONS – SUBSTITUTION PROCEDURES (SECTION 012500) and EQUIVALENTS (SECTION 012519). It is expressly agreed that without limitation to all other requirements of the preceding Specification sections and notwithstanding anything to the contrary in the Contract Documents, no equivalents may be proposed by Contractor and no equivalents will be considered by Owner after the time set forth in EQUIVALENTS SECTION 012519 and in no event any later than the time of Contract execution.

§ 3.4.2.3 Notwithstanding the above Section 3.4.2.2 or anything else in the Contract Documents to the contrary:

(i) The Architect, Construction Manager and Owner's decision of approval or disapproval of a proposed equivalent or substitution shall be made in their sole discretion and shall be final.

(ii) Should the Construction Manager, Architect and Owner not approve a proposed substitution, the costs incurred by Owner relating to the review of said substitution shall be deducted from the Contract Sum.

(iii) The Contractor making a substitution shall bear all costs associated with such substitutions including, but not limited to: (a) redesign required for any of the Work; (b) material or quantity changes for any of the Work; (c) delays in any of the Work; and/or (d) requests for information generated due to substitutions.

(iv) The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Architect will not approve as equal to materials specified proposed substitutes which, in its reasonable opinion, would be out of character or quality of design of the Project.

§ 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. The Contractor acknowledges that it is the Contractor's responsibility to hire all personnel for the proper and diligent prosecution of the Work and the Contractor shall maintain labor peace for the duration of the Project. Should any disorderly, incompetent or objectionable person be hired or employed by the Contractor or be let upon or about the premises of the Owner, for any purpose or in any capacity, they shall, upon request of the Construction Manager or Owner, be removed from the Project and not again assigned thereto without written permission of the Construction Manager or Owner. In the event of a labor dispute, the Contractor shall not be entitled to any increase in the Contract Sum or extension of the Contract Time.

§ 3.4.3.1 UNION DISPUTES / LABOR HARMONY

§ 3.4.3.1.1 The Contractor shall employ only labor on the Project or in connection with its Work capable of working harmoniously with all trades, crafts and any other individuals associated with the Work to be performed. There shall be no strikes, picketing, work stoppages, slowdowns or other disruptive activity at the Project for any reason by anyone employed or engaged by the Contractor to perform any portion of its Work. There shall be no lockout at the Project by the Contractor. The Contractor shall be responsible for providing the manpower required to proceed with the Work under any circumstance. Should it become necessary to create a separate entrance for Contractor because of its involvement in a labor dispute, all costs associated with creating that entrance shall be borne by the Contractor. Such costs shall include, but not be limited to, signage, fencing, temporary roads and security personnel as deemed necessary by the Construction Manager for the safety of the occupants of the site.

§ 3.4.3.1.2 If Contractor has engaged the services of workers and/or Subcontractors who are members of trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage or cost to the Owner, and without recourse to the Construction Manager, Architect or the Owner, any conflict between its Contract with the Owner and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the Work of any particular trade.

§ 3.4.3.1.3 In case the progress of the Work to be performed by the Contractor is affected by any delay in furnishing or installing any items or materials or equipment required pursuant to its Contract with the Owner because of a conflict involving any labor agreements or regulations, the Owner may require another

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material or equipment of equal kind and quality (as determined by the Owner with the assistance of the Architect) be provided pursuant to a Change Order or Construction Change Directive but in no case shall the amount of such change be charged by the Contractor to the Owner as an additional cost to perform the Work pursuant to its Contract.

§ 3.4.3.1.4 The Contractor shall ensure that its Work continues uninterrupted during the pendency of any labor dispute.

§ 3.4.3.1.5 The Contractor shall be liable to the Owner for all damages suffered by the Owner occurring as a result of any Work stoppages, slowdowns, disputes or strikes.

§ 3.4.4 A sufficient force of competent workmen, foremen, and superintendents shall be employed at all times to permit the Work to be pursued with diligence and in conformance with the Project Schedule until completion.

§ 3.4.5 No materials or supplies for the Work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale or any arrangement by which any interest is retained by the seller. The Contractor warrants that it has good title to all materials and supplies used by it in the Work, or resold to Owner, pursuant to the Contract Documents, free from all liens, Claims/claims or encumbrances.

§ 3.4.6 Contractor shall comply with the Contract requirements and all applicable federal, state and local laws, including, but not limited to provisions of the New York State Labor Law concerning hours of work, prevailing rate of wages (as published by the Bureau of Public Work, State of New York, Department of Labor), minimum wages, working conditions, prevailing wage enforcement, notices to be posted at the Project site, and employment and payroll records. SEE SPECIFICATION SECTION 007343 – WAGE RATE REQUIREMENTS. The Contract Documents elsewhere include reference to the minimum hourly rate of wage which can be paid and the minimum supplement that can be provided in conformance with New York State Labor Law, and all laborers, workingmen or mechanics shall be paid not less than such hourly minimum rate of wage and provided supplements not less than the prevailing supplements.

§ 3.4.6.1 The Contractor shall maintain the original payrolls or transcripts thereof which the Contractor and its Subcontractors are required to maintain pursuant to New York State Labor Law. The Contractor and its Subcontractors shall submit original payroll or transcripts, subscribed and affirmed by it as true, with each and every Application for Payment. The Contractor and Subcontractors shall produce within five (5) days on the Project site and upon a written order of the Construction Manager, Owner, or relevant authority having jurisdiction over the Project or Work, such original payrolls or transcripts thereof, subscribed and affirmed by it as true, and the statements signed by each worker. In addition, the Contractor and its Subcontractors shall furnish to the Construction Manager or Owner upon written demand any other information to satisfy the Construction Manager or Owner that this Section 3.4.6 and its subsections and the New York Labor Law, as to the hours of employment and rates of wages are being fully observed and complied with. The Contractor shall maintain the payrolls or transcripts thereof for at least the longer of: (i) seven (7) years from the date of final completion of the Work of this Contract; or (ii) as required by applicable law.

§ 3.4.6.2 When directed by the Construction Manager or Owner, the Contractor shall provide the Construction Manager with an attendance sheet for each day of which Work is performed on the Project site. Such attendance sheet shall be in a form acceptable to the Construction Manager or Owner and shall provide information for employees of the Contractor and its Subcontractors.

§ 3.4.6.3 Without limiting the generality of Section 3.4.6 above or any other requirements of the Contract Documents or applicable law, Contractor shall comply with all applicable requirements of New York Labor Law §220 et seq., and the contract requirements required by New York Labor Law §220 to be included in this Contract are deemed incorporated herein by reference.

§ 3.4.7 All materials used permanently in the Work shall be new unless otherwise specified. The apparent silence of the Specifications as to any detailed description concerning any Work to be done and materials to be furnished shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the first quality are to be used, and all interpretations of the Specifications shall be made on this basis. All material incorporated in the Project shall be clean and exhibit no appearance of aging, exposure to weather, prior use, handling or damage of any kind.

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§ 3.4.8 Unless provided otherwise in the Contract Documents, manufacturer's identification shall be inconspicuous, but where nameplates contain information relative to characteristics or maintenance, they shall be clearly visible and located for easy access.

§ 3.4.9 Equipment intended for permanent installation shall not be operated for temporary purposes without the written permission of the Construction Manager and Owner.

§ 3.4.10 Materials shall be delivered in manufacturer's original sealed containers, with complete identification of contents and manufacturer, and kept sealed in original containers until used. Labels shall not be removed until materials have been installed and inspected.

§ 3.4.11 Unless provided otherwise in the Contract Documents, whenever the Contract Documents require delivery by the Contractor of any materials, equipment, or other items, the term delivery shall be deemed to include unloading and storing with proper protection where directed.

§ 3.4.12 Unless provided otherwise in the Contract Documents, where material is specified to be furnished by others or furnished and delivered only, the Contractor installing the material shall be responsible for scheduling the delivery and receiving, unloading, storing, handling, relocating, hoisting, distribution, laying out and installing the material.

§ 3.4.13 Materials shall be applied or installed under proper climatic conditions, not when they may be affected by temperature, moisture, humidity or dust.

§ 3.4.14 No materials incorporated into the Project Work shall contain asbestos. Materials shall be "asbestos free" containing zero percent (0%) asbestos. The Construction Manager and the Owner reserve the right to request certification from the material manufacturer through the Contractor for certification that materials installed contain zero percent (0%) asbestos.

§ 3.4.15 Contractor shall include in its base price the cost of all rigging and equipment required for the performance and installation of its Work.

§ 3.4.16 Consistent with the requirements of New York Labor Law §220-e and all other applicable laws, and without limitation to any other related requirements in the Contract Documents regarding such, Contractor agrees: (a) that in the hiring of employees for the performance of Work under this Contract or any subcontract hereunder, neither Contractor, nor any Subcontractors, nor any person acting on behalf of Contractor or any Subcontractor, 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; (b) neither Contractor, nor any Subcontractor, nor any person on Contractor's or Subcontractor's behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of Work under this Contract on account of race, creed, color, disability, sex or national origin; (c) that, at a minimum, and as consistent with applicable law, there may be deducted from the amount payable to the Contractor by the Owner a penalty of fifty dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract; and (d) that this Contract may be cancelled or terminated by the Owner, and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the Contract.

§ 3.4.17 Consistent with the requirements of New York Labor Law §220-f, Contractor represents that it is not currently participating and it has never participated at any time in an international boycott in violation of the provisions of the United States export administration act of nineteen hundred sixty-nine, as amended, or the export administration act of nineteen hundred seventy-nine, as amended, or the regulations of the United States department of commerce promulgated thereunder.

§ 3.4.18 Contractor agrees that, without limitation, that the requirements of New York Labor Law §220-g are incorporated herein by reference and binding on Contractor, and its Surety on the Payment Bond provided in connection with this Contract, regarding actions by any employees of Contractor or Subcontractor for unpaid wages and supplements, including interest.

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§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, and Architect that materials and equipment furnished under the Contract will be the best quality and new. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects. Work, materials, or equipment not conforming to these requirements shall 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 Construction Manager, Architect, or Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The warranty provided in this Section 3.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

§ 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 be delivered to the Construction Manager prior to final payment and shall commence in accordance with Section 9.8.4. Contractor shall perform all Work in such a manner so as to preserve any and all manufacturers' warranties.

§ 3.5.2.1 The Contractor will exercise its best efforts to service and to enforce for the benefit of Owner all manufacturers' warranties on all materials, equipment and fixtures incorporated into the Work.

§ 3.5.3 The warranties set forth herein shall survive completion, expiration and/or termination of this Contract.

§ 3.5.4 The Contractor will make good at its own cost and expense all defects and all damage caused to the Owner, due to correcting defective Work that is under warranty/guarantee. All corrections to defective Work shall be made at the convenience of the Owner.

§ 3.5.5 Where relevant, the Contractor represents that it is a manufacturer's approved Contractor in connection with the Work and will furnish the manufacturer's warranty to the Owner and Construction Manager.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof 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. **Notwithstanding the preceding,** New York State sales tax is not applicable to any materials and supplies incorporated into and becoming an integral part of the structures, buildings, or real property of the Project under the terms of the Contract, the Owner being exempt therefrom. Such taxes shall not be included in the Contractor's bid or Contract Sum. Upon request, the Owner shall supply to the Contractor an exemption certificate or other appropriate documentation of exemption for such tax required to be provided by the Owner, and Contractor and its Subcontractors and materialmen shall be solely responsible for obtaining and delivering any and all documentation of such tax exemption to all persons, firms, or corporations from whom they purchase supplies, materials, and equipment for the performance of the Work.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 The Owner shall, if same is required, secure and pay for the general building permit only. The Contractor shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work, including, without limitation, the mechanical, electrical, and plumbing permits, the health and environmental impact fees due to water and sewer connections, if any, as relevant to the Work, and all other fees and permits necessary for the Work. The Contractor, in securing other permits for construction of the Work or with regard to any other aspect of the Work which requires a permit, notwithstanding anything to the contrary in the Contract, shall at its own cost and expense make the necessary arrangements to complete, file, and have sealed by a professional engineer licensed in the jurisdiction (if required), any and all preliminary affidavits or certifications that may be required by the governing agency or agencies having jurisdiction for issuing permits for the Work which are legally required when bids are received, but in any case, prior to starting Work.

§ 3.7.1.1 The Contractor shall promptly deliver copies of such documents to the Owner.

§ 3.7.1.2 If in connection with the Project, the Owner has obtained certain permits, licenses or agreements for the Project, the Owner will furnish copies of these documents to the Contractor. It is the Contractor's responsibility to comply with any conditions or limitations placed on the Project or the Work by any permits, licenses, or agreements relating to the Project or the Work. The Contractor

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(with no increase in the Contract Sum or extension of the Contract Time) shall fully cooperate with the Owner in meeting the requirements of any permits, licenses, or agreements, and accommodations of regulatory inspections and directives.

§ 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. Contractor shall pay any costs or fees incurred in such compliance and any fines or penalties imposed for violation thereof. In addition, Contractor shall, to the fullest extent permitted by law, defend, indemnify, and hold harmless the Owner, Construction Manager, and Architect (and the board members, officers, administrators, agents, and employees of any of them) from any resulting fines, penalties, judgments or damages, including reasonable attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder) imposed on, or incurred by such indemnified parties due to any such violation (or alleged violation). This provision shall survive the completion or termination of the Contract.

§ 3.7.2.1 The Contractor shall be responsible for and coordinate any and all inspections required by any governmental body or other authority having jurisdiction over the Work and secure approvals of and comply with requirements of all such authorities and deliver certificates and/or other appropriate documentation of approvals to the Construction Manager and Architect, and shall prepare all documents, including drawings, and pay all costs, necessary or relating to securing such approvals.

§ 3.7.2.2 Certificate of Occupancy:

.1 It shall be the responsibility of the Contractor to obtain all necessary approvals and releases from governing agencies and other authorities having jurisdiction over the Work and to satisfy all requirements for the issuance and obtaining of any required temporary and final certificates of occupancy.

.2 Contractor shall, without limitation, be responsible for the costs of applying for and obtaining such certificates of occupancy, and, if required, shall file and have sealed, by a professional engineer licensed in the jurisdiction, the final affidavit(s) of certification that the Work has been constructed in conformance with filed documents, ordinances, rules, and regulations and such other data that may be required by the governing agency or agencies having jurisdiction over the Work and/or this Project.

.3 Said certificates (if required for the Work) shall be turned over to the Construction Manager and Architect prior to certification of final payment and in connection with same.

§ 3.7.2.3 Upon completion of the Work and as an express condition precedent to final payment, the Contractor shall deliver to the Construction Manager and the Architect original copies of all required final certificates of inspection, the Certificate of Occupancy, and all other documents evidencing that inspections required by authorities having jurisdiction over the Work have been performed.

§ 3.7.3 If the Contractor performs Work where it knows or should have known 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. It shall be the obligation of the Contractor to review the Contract Documents to determine and to notify the Construction Manager and the Architect of any discrepancies between building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine. Contractor's review, however, is in its capacity as an experienced contractor and not a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are not otherwise the responsibility of Contractor pursuant to any other provision or requirement of any of the Contract Documents and 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 written notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than seven (7) days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, determines that they differ materially and cause an increase or decrease

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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, in consultation with the Construction Manager, 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, Construction Manager, and Contractor, stating the reasons. If the Contractor disputes the Architect's determination or recommendation, the Contractor may make a Claim as provided in and subject to 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, Construction Manager, 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 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.

§ 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, 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 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.

§ 3.8.4 SEE SPECIFICATIONS – ALLOWANCES – SECTION 012100.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants. Prior to starting the Work, the Contractor shall designate its project manager, superintendent and other key individuals who shall be assigned to the Project through and including final completion. Such designation shall be in writing and provided to the Construction Manager, Architect and Owner. The superintendent shall be in attendance at the Project site throughout performance of the Work, including full completion of the punch list. Unless approved otherwise by the Owner in writing in advance, the Contractor's superintendent shall be assigned solely to this Project and shall not perform any duties or superintendence on any other Project until completion of this Project. The superintendent shall be subject to approval by the Owner and the Construction Manager in their sole discretion. Said superintendent shall be qualified in the type of Work to be undertaken and shall not be changed during the course of construction without the prior written consent of the Owner or Construction Manager in their discretion. Should the superintendent leave the Contractor's employ, Contractor shall promptly designate a new superintendent. Owner and Construction Manager shall have the right, at any time, to direct a change in the Contractor's superintendent or any of its representatives if their performance is unsatisfactory in the determination of Owner or Construction Manager in their discretion. In the event of such demand, Contractor shall, within five (5) days after delivery of notification thereof, replace said individuals(s) with an individual satisfactory to Owner or Construction Manager. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The Owner shall have no obligation to direct or monitor the Contractor's employees. All references herein to the superintendent shall be taken to mean the Contractor's superintending staff. All substantive communications from Contractor to Construction Manager, Architect or Owner shall be made and/or confirmed in writing by Contractor.

(Paragraphs deleted)

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§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project Schedule, a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including, without limitation: (1) the date of commencement of the Work, interim schedule Milestone Dates, and the Required Substantial Completion Date; (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, subject to all other relevant terms of this Contract. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

§ 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 Construction Manager's and Architect's approval. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Construction Manager and 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 extension of Contract Time based on the time required for review of submittals. In no instance shall Contractor be entitled to an increase in the Contract Sum based on the time required or taken for review of submittals (See Section 8.3.1).

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager, the Architect, and the Owner in reviewing and coordinating all schedules for incorporation into the Project Schedule that is prepared by the Construction Manager (the "Project Schedule"). The Contractor shall make revisions to its construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project Schedule. Failure of Contractor to notify Construction Manager, Owner and Architect of any objection, in writing, within five (5) days of receipt of any Project Schedule, including the final, coordinated, detailed Project Schedule and/or any updates thereto, shall be deemed acknowledgement of Contractor's acceptance thereof.

§ 3.10.4 The Contractor shall perform the Work in accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved Project Schedule. After approval of the initial Project Schedule, any updated Project Schedule(s) based upon the current schedule status of the Work and incorporating changes based on actual progress and new or more reliable information, and/or information provided to Construction Manager by Contractor pursuant to Section 3.3.10 of this A232-2019 (as modified) or otherwise, shall be subject to Construction Manager's written approval, shall not change the currently established Required Substantial Completion Date or any of the Milestone Dates, and shall not be binding upon Owner in any manner. Notwithstanding the preceding or any approvals by Construction Manager or Owner of any updated Project Schedules, or any information provided to Construction Manager by Contractor pursuant to Section 3.3.10 of this A232-2019 (as modified) or otherwise, or anything in this Contract to the contrary, any change to the Required Substantial Completion Date or any of the Milestone Dates shall only be pursuant to a Change Order signed by Owner pursuant and subject to all applicable provisions in the Contract Documents, including, without limitation, those in Article 8 of this A232-2019 (as modified).

§ 3.10.5 The Contractor shall be responsible for coordinating and expediting its fabrication and delivery schedules and keeping the Construction Manager, Architect and Owner informed as to its progress and its anticipated ability to stay on schedule. The Contractor shall monitor the progress of the Work for conformance with the Project Schedule and shall promptly advise Construction Manager and Owner of any delays or potential delays. Contractor shall update and coordinate its construction schedule with the Project Schedule in accordance with its schedule reporting requirements set forth in Section 3.3.10 above, or more frequently if requested.

§ 3.10.5.1 Without limitation to Section 3.10.5 above, the Contractor shall submit progress/status reports on fabrication on long lead items (items requiring four (4) weeks and over to fabricate) to the Construction Manager, Architect and Owner every week.

§ 3.10.6 The Contractor shall schedule, coordinate and perform its Work, in cooperation with the Construction Manager, Architect and Owner, so as to avoid conflict, delay in, or interference with the work of other Contractors or operations of the Owner's own forces or Separate Contractors. The Contractor is solely responsible for the accuracy

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and adequacy of the scheduling information it provides to the Construction Manager, Architect and Owner as necessary for preparation of the overall Project Schedule; therefore, the Contractor is solely responsible for the accuracy and adequacy of the Project Schedule (or its updates) as it pertains to the Contractor's Work.

§ 3.10.7 TIME IS OF THE ESSENCE to the Owner for the Contractor's completion of its Work and completion of the Project. Accordingly, the Contractor shall prosecute the Work diligently, using such means and methods of construction in accord with the requirements of this Contract as will assure its completion not later than the Required Substantial Completion Date and any earlier Milestone Dates as may be extended only as provided by and subject to all applicable terms of this Contract.

§ 3.10.8 The Contractor shall include in its Contract Sum, all out of sequence Work and any Work required to be performed during overtime hours or non-working hours necessary to maintain the Project Schedule or any separate Owner's move-in schedule.

§ 3.10.8.1 The Owner shall have the right to direct a postponement or rescheduling of any date or time for the performance of any part of the Work that may interfere with the operation of the Owner's premises or any tenants or invitees thereof. The Contractor shall, upon the Owner's request, reschedule any portion of the Work affecting operation of the premises to hours during which the premises are not in operation. Any postponement, rescheduling or performance of the Work under this section may be grounds for an extension of the Contract Time, if permitted and subject to all provisions relating to such, so long as additionally: (1) the performance of the Work postponed or rescheduled was originally properly scheduled by the Contractor in compliance with the requirements of the Required Substantial Completion Date and any earlier Milestone Dates and the Contract Documents; and (2) such rescheduling or postponement is required solely for the convenience of the Owner.

§ 3.10.9 If the Contractor shall fail to adhere to the approved Project Schedule, it shall, at no additional cost to Owner (i.e., no increase in the Contract Sum), promptly adopt such other recovery plans and means and methods of construction as will make up for the time lost and will assure completion in accordance with the approved Project Schedule.

§ 3.10.10 When the Contract Documents use the term "coordinate" and "coordination" in relation to the Contractor, those terms shall refer to the obligation of the Contractor to plan and direct its Work in cooperation and coordination with other Contractors and with Owner's own forces and Separate Contractors at all times when the Work of the Contractor or its Subcontractors overlaps or dovetails with other work at the site, to the end that the overall Project is carried out continuously, in an efficient, workmanlike manner, without conflict between any trades, and so that no trade, at any time, causes delay to the general progress of the Project.

§ 3.10.11 The scheduling and coordination obligations of Construction Manager under this Contract are for the sole benefit of the Owner and are not intended to create any rights whatsoever in favor of Contractor. The Contractor shall not have any Claim whatsoever against the Owner or Construction Manager or Architect arising out of any alleged neglect or failure on the part of Owner or Construction Manager or Architect to schedule or coordinate the Work of the Contractor.

§ 3.11 Documents and Samples at the Site

§ 3.11.1 Immediately upon request from the Owner, the Construction Manager or the Architect, 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 (at the choice of the Owner, the Construction Manager or the Architect in their discretion), available to the Construction Manager, Architect, and Owner, and delivered to the Construction Manager or Architect (as directed by the Construction Manager) for submittal to the Owner upon completion of the Work (after review and approval by Architect) as an express condition precedent, among other things, to final payment, as a record of the Work as constructed, showing complete exact as-built conditions, including without limitation, structural, mechanical, electrical, and other basic building systems as specified in the Contract Documents regarding Contractor's Work and otherwise as required or may be directed by Architect. All marked-up as-built drawings shall be subject to Architect's approval in its discretion.

§ 3.11.2 Contractor shall maintain at least one (1) digital/electronic copy of all correspondence, memoranda and bulletins and other documents and written communications to and from the Owner, Construction Manager, Architect,

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consultants, Subcontractors, suppliers, public agencies and authorities, other authorities with jurisdiction over the Work, and others, arising out of or relating to the Work of this Contract or the Project, and shall deliver same to Construction Manager and/or Owner immediately following any request from either Construction Manager or Owner.

§ 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 (all of which may be referred to individually and/or collectively as "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 and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors. Contractor shall review all submittals for completeness. Contractor is responsible to stamp all Shop Drawings prior to submission to the Construction Manager and Architect. All information requested in the Contract Documents or otherwise by the Construction Manager or Architect shall be provided by Contractor in the form and following such procedures prescribed by the Construction Manager and the Architect. Submittals/ Shop Drawings will be returned without review if the information is not provided as required or if procedures as prescribed are not followed to the Construction Manager's or Architect's satisfaction.

§ 3.12.5.1 Unless specified otherwise elsewhere in the Contract Documents, Contractor shall generate a complete "Submittal Log" within one (1) calendar week of issuance of a Notice to Proceed or commencement of Work, whichever is earlier. This log shall list all required submittals specific to the trade as detailed in the Project Manual/Specifications. If Construction Manager provides a form for compliance with the terms of this Section, such form shall be used by Contractor.

§ 3.12.5.2 All submissions shall be sent to the Construction Manager and Architect by any method required by Construction Manager and Architect for such submission.

§ 3.12.5.3 Unless required otherwise elsewhere in the Contract Documents, Contractor shall provide one transmittal for each submittal identifying each unique submittal individually, and for each submittal, the Contractor shall identify the length of the delivery time and the necessary "last date" an item may be received on site. Contractor shall keep a log of all of its submittals in a manner prescribed by the Construction Manager and Architect.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, 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. Architect's review of such Shop Drawing and submittals is for the purpose of checking for conformance with information given and the design concept expressed in the Contract Documents, and not for the

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purpose of determining the accuracy and completeness of details such as field/site 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 its obligations under the Contract Documents. The Architect's review shall not constitute approval of safety precautions or, unless otherwise expressly stated by the Architect, 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.

§ 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 been reviewed and approved by the Architect. Contractor shall be responsible for all cost and expense relating to any Work performed by it in violation of this Section.

§ 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 Construction Manager and Architect in writing 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.

§ 3.12.9 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 Construction Manager and 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 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 by the Architect. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, 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, the Architect, and the Construction Manager 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 Architect has 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. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors. Nothing herein shall limit or restrict Architect's obligations to Owner as set forth in its contract with the Owner.

§ 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 Construction Manager and Architect at the time and in the form specified by the Architect.

§ 3.12.11 Contractor is responsible for providing any required mock-ups required by the Contract Documents out of sequence as needed for the Project.

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§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas designated by the Owner or Construction Manager and 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.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site. Field personnel are to be confined to the Work area assigned.

§ 3.13.3 Unless otherwise specified in the Contract Documents, Contractor is responsible for its own storage and personnel trailers at the site, and Contractor will be required to supply trailers and storage as required. All costs related to delivery, construction, protection, power, etc. shall be borne by the Contractor. The Owner (unless otherwise specified in the Contract Documents, or otherwise agreed by Owner in its discretion) WILL NOT PROVIDE STORAGE SPACE. The placement of trailers will be strictly limited to predetermined locations. Approval of the placement of any trailer or storage box must be received from the Construction Manager.

§ 3.13.3.1 Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it is to be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall be held responsible for repairs, patching, or cleaning arising from such use.

§ 3.13.4 The right of possession of the premises and the improvements made thereon by the Contractor shall remain at all times in the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents, which may be revoked by Owner at any time in its discretion.

§ 3.13.5 Contractor shall confine its use of the premises, for all purposes, to the areas occupied by the construction and related storage areas as and if shown in the Contract Documents or as prescribed by the Construction Manager.

§ 3.13.6 The Contractor shall provide all required temporary access walkways, both interior and exterior, temporary partitioning and the like necessary to complete all operations.

§ 3.13.7 The Contractor shall maintain unobstructed entrance to and/or exit from any present building complex. All Contractor's Work areas shall be kept clean each day of refuse. THE ENTIRE FACILITY WILL REMAIN IN OPERATION DURING THE COURSE OF THE ENTIRE CONSTRUCTION OPERATIONS. Contractor shall schedule its Work so as not to interfere with any traffic to and from the required areas of use. Contractor shall be responsible for maintaining all traffic and shall provide all required barriers and protection as required to safeguard the Work and the public and the occupants of the building during Construction.

§ 3.13.8 Contractor, its Subcontractors, workmen, suppliers, etc., will be held to adhere strictly to all Owner requirements and shall not occupy or carry on traffic through other parts of the site or interior of present buildings, except by specific permission from the Owner.

§ 3.13.9 The Contractor shall repair or replace any existing trees, shrubbery or other planting damaged by operations and/or workmen employed in performance of the Contract.

§ 3.13.10 During the whole course of the Work, the Contractor shall conduct its Work and operations as to interfere with traffic near the Work as little as possible and effect by every reasonable means the safety and comfort of pedestrians, vehicles and vehicle passengers near the Work.

§ 3.13.11 Employees, vehicles, equipment, and material of Contractor and of all others utilized by the Contractor for the performance of its Work shall enter onto the construction site only at those locations designated or approved by the Owner as made known by Construction Manager.

§ 3.13.12 Contractor shall familiarize itself with all access and storage requirements and shall be subject to the same. Contractor shall properly maintain all access to Work and storage areas so that there will be continuous unimpeded access to the Work site in all seasons of the year, on all regular working days and during all regular working hours by

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any Contractors, Owner's own forces or Separate Contractors at the site.

§ 3.13.13 Only such vehicles, trucks and equipment shall be parked or stored within the Work area as are absolutely necessary for performing the Work. ALL OTHER CONTRACTOR'S VEHICLES AND/OR EMPLOYEES' AND/OR WORKMEN'S VEHICLES, INCLUDING PASSENGER CARS, SHALL BE PARKED OFF THE SITE.

§ 3.13.14 The Contractor and any entity for which the Contractor is responsible shall not erect any sign on the Project site without the written consent of the Owner, which may be withheld in the sole discretion of Owner.

§ 3.13.15 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas, other than those designated by the Owner. Without limitation to any other provision of the Contract Documents, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site and any buildings thereon as amended from time to time. The Contractor shall immediately notify the Owner in writing if during the performance of the Work the Contractor finds compliance with any portion of the rules and regulations to be impracticable, setting forth the problems of such compliance and suggesting alternatives through which the same results intended by such portions of the rules and regulations can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives, or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project site and any buildings located thereon.

§ 3.13.16 The Contractor shall provide full and free access for the Architect, Construction Manager, Owner and/or their representatives, to inspect job materials, equipment, fabrication, facilities, and storage locations, at and away from the Project site.

§ 3.13.17 Security:

§ 3.13.17.1 It will be the responsibility of the Contractor to provide necessary and required security measures to adequately safeguard the Work site from vandalism and intrusion of unauthorized persons.

§ 3.13.17.2 The Contractor shall submit the means and methods of security to the Owner through the Construction Manager. The Project site must be secured 24 hours a day, seven (7) days a week, including all holidays.

§ 3.13.17.3 All workpersons and employees of Contractor are prohibited from:

.1 Trespassing or leaving any vehicle on any property not assigned by the Owner as set aside for the use of the Contractor.

.2 Leaving any vehicle on the grounds unless it is locked, and the ignition keys are removed.

§ 3.13.17.4 All Contractor employees or persons for whom Contractor is responsible entering upon the Work site and/or property surrounding the Work site are restricted to the immediate area necessitated by the Work.

§ 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, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its consent to cutting or otherwise altering the Work.

§ 3.14.3 Unless specified otherwise elsewhere in the Contract Documents, all cutting and patching Work shall be done by the Contractor (or through the appropriate Subcontractor). Patches in finish surfaces shall match the adjacent

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surfaces in material, finish, detail, and quality. Patches in fire rated construction or construction required to be smoke tight shall be made in conformance with assemblies designed and tested by agencies recognized by governing codes. Any UL rated fire-safing materials, flanges, or other materials required by Code, the Contract Documents, or manufacturer's installation instructions for devices penetrating the Work affected shall be applied and installed by an approved firestop Subcontractor or qualified personnel from the applicable trade.

§ 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. On a daily basis and 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.

§ 3.15.1.1 The Contractor shall broom sweep all Work areas every day. The Construction Manager or Owner may perform an inspection each afternoon to determine that the Work areas of the Contractor have been properly cleaned.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner's approval, may do so without notification to the Contractor and the Owner shall be entitled to reimbursement from the Contractor for all costs arising out of or relating to such, including, notwithstanding anything in the Contract Documents to the contrary, reimbursement for the cost of the time of any custodial staff of Owner utilized for cleaning up.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, 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, to the fullest extent permitted by law, indemnify and hold the Owner, Construction Manager, and Architect harmless from all cost, expense, loss, claims, causes of action, judgments, including, without limitation, attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), arising out of or relating thereto, 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, Architect, or Construction Manager. However, if an infringement of a copyright or patent is discovered by, or made known or should be known to, the Contractor, the Contractor shall be responsible for the loss, including having all the indemnity obligations hereunder, unless the information is promptly furnished to the Architect through the Construction Manager. The obligations herein are without limitation and in addition to all other indemnity obligations of Contractor elsewhere in the Contract Documents, or as provided by law or equity. The obligations in this Section 3.17 shall survive the completion of the Contract or its termination.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall defend, indemnify, and hold harmless the Owner, the Owner's Board of Education, Construction Manager, Architect, Construction Manager's and Architect's consultants, and the board members, officers, administrators, agents and employees of any of them (each individually and collectively an "Indemnified Party"), from and against claims, damages, losses, liabilities, demands, lawsuits, causes of action, judgments, costs and expenses, of every kind, character, nature, or type, including, but not limited to, attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), (collectively referred to in this Section 3.18 as "Claims and Losses"), that are caused by, attributable to, arise out of or result from or are in any way connected, in whole or in part, to the performance of the Work or any act or omission by Contractor or a Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them are liable, provided that such Claims and Losses are attributable to (i) bodily injury, sickness, disease or death, or (ii) to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts they may be liable (an "Indemnified Claim"), regardless of whether or not such Indemnified Claim is caused in part by an Indemnified Party indemnified hereunder or whether contractual liability for indemnity

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or liability without fault is sought to be imposed on the Owner or any other Indemnified Party. Notwithstanding the preceding, it is further agreed that notwithstanding any provision to the contrary in this section or anywhere else within the Contract Documents, all of the defense and indemnification and hold harmless obligations herein are subject and subordinate to the limitations of any applicable laws of the State of New York and in no event shall Contractor nor any other party be required to defend or indemnify any Indemnified Party in violation of such applicable laws. It is further understood that in the event that a court of competent jurisdiction determines that any of the defense or indemnification obligations hereunder are unenforceable in whole or in part, Contractor's obligation to defend and indemnify shall be replaced with the strictest enforceable defense and indemnification provision allowable by applicable law. Contractor's obligations set forth herein shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to an Indemnified Party described in this Section 3.18.

§ 3.18.2 In claims against any Indemnified Party or other person or entity indemnified under this Section 3.18 and its subsections 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.

§ 3.18.3 The obligations contained in this Section 3.18 and its subsections shall survive the completion or termination of this Contract.

§ 3.19 Without limiting Section 3.18 above, the Contractor shall additionally, to the fullest extent permitted by law, defend, indemnify and hold harmless any Indemnified Party (as defined in Section 3.18.1 above) from and against any and all Claims and Losses (as defined in Section 3.18.1 above) that are caused by, attributable to, arise out of or result from or are in any way connected, in whole or in part, to Contractor's violation (or alleged violation) of any laws or regulations applicable to the Contractor's Work, but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable. The obligations contained in this Section 3.19 shall survive the completion or termination of this Contract.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 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 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

(Paragraph deleted)

§ 4.2 Administration of the Contract

§ 4.2.1 Without limiting the Architect's and Construction Manager's respective responsibilities and obligations to the Owner as set forth in their respective agreements with the Owner, the Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 For the benefit of Owner only, and not Contractor, 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. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work. This Section 4.2.2 shall not be deemed as any type of limitation on the Architect's responsibilities and obligations to the Owner as set forth in its agreement with the Owner.

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§ 4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for site visits made necessary through any fault of the Contractor to maintain the Project Schedule or for defects and deficiencies in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. For the benefit of Owner only, and not Contractor, the Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will report to the Owner and Architect known deviations from the Contract Documents and the most recent Project Schedule, and defects and deficiencies observed in the Work. This Section 4.2.3 shall not be deemed as any type of limitation on the Construction Manager's responsibilities and obligations to the Owner as set forth in its agreement with the Owner.

§ 4.2.3.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Construction Manager for site visits made necessary through any fault of the Contractor to maintain the Project Schedule or for defects and deficiencies in the Work.

§ 4.2.4 Separate from and in addition and without limitation to all of Contractor's obligations under the Contract Documents, the Construction Manager, for the benefit of Owner, will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project Schedule.

§ 4.2.4.1 If there is a coordination conflict between or among any of the Contractors on the Project, and if the Owner, or Contractor, or any other Contractors, make a written request to the Construction Manager, the Construction Manager shall use reasonable efforts to recommend a reasonable solution. The Construction Manager shall make such recommendations consistent with the latest approved Project Schedule, to the extent reasonably possible, as judged by the Construction Manager. The Contractor shall participate with other Contractors and the Construction Manager and Owner in reviewing the Project Schedule when directed to do so. If so directed by Construction Manager or Owner in order to resolve coordination conflicts, the Contractor shall change the sequence or schedule of its Work in the manner provided for in these General Conditions (A232-2019, as modified) and as otherwise may be required under the Contract Documents. See also, without limitation, Section 3.10 (and its subsections) and Article 8 of this A232-2019 (as modified).

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and 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, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 **Communications.** Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized or written notices are required to be provided directly to Owner pursuant to any provision in these General Conditions of the Contract (A232-2019, as modified) or elsewhere in the Contract, the Contractor shall communicate with the Owner through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner may generally communicate with the Contractor through the Construction Manager, but there shall be no limitation on Owner's right to directly communication with Contractor. When Contractor responds to Owner following a direct communication from Owner to Contractor, Contractor shall contemporaneously provide a copy of the same communications to the Construction Manager. Contractor's communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall generally be through the Contractor, but there shall be no limitation on Construction Manager's, Owner's, and Architect's right to directly communicate with Subcontractors and material suppliers as they deem necessary in their discretion. Contractor's communications by and with other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. To the extent that any other communication protocols set forth in any Contract Documents are in conflict with any terms or requirements in this A232-2019 (as modified) for any written notice(s) to Owner or written approvals, consents, or waivers from Owner, the terms of this A232-2019 (as modified) shall control.

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§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 For the benefit of the Owner only, the Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or advisable (for the benefit of the Owner only), the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and initial decisions of the Architect regarding Contractor's performance under the Contract Documents. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager may, where necessary and relevant for the Project, prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule, if so created, and any revisions shall be submitted to the Architect for approval.

§ 4.2.10 The Construction Manager will receive and review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect, for the benefit of Owner and Architect only and not for the benefit of Contractor, that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 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. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under the Contract Documents, including, without limitation, under Sections 3.3, 3.5, and 3.12 of this A232-2019 (as modified). The Construction Manager and 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.

§ 4.2.13 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

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§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain for the Owner one digital/electronic (and where appropriate paper) copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be immediately available to the Owner and Architect upon request , and will be delivered in final form to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and all other documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment following the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 Intentionally Omitted.

§ 4.2.18 The Architect will interpret and make initial determinations concerning Contractor's performance under the Contract Documents and requirements of the Contractor under the Contract Documents on written request of the Construction Manager or Owner. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.19 Interpretations and initial 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 initial decisions, the Architect will endeavor to secure faithful performance by the Contractor, and will not be liable to the Contractor for results of interpretations or decisions so rendered in good faith.

§ 4.2.20 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents and agreed to by Owner in writing.

§ 4.2.21 The Construction Manager will receive and review requests for information ("RFIs") from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request (RFI) will be made in writing within any time limits agreed upon or otherwise with reasonable promptness, but Contractor shall be obligated to submit RFIs in a reasonable time in advance of its need for a response to enable Construction Manager and Architect a sufficient time to act upon such submission or necessary re-submission(s) thereof. Based upon the amount of RFI's received and their level of content, the Construction Manager and Architect shall jointly establish the level of importance of each RFI and shall be allowed a reasonable amount of time in their respective judgment to permit adequate review. The Contractor shall not have any right to an extension of Contract Time on account of delays due to the Contractor's failure to submit requests for the required information or the required approval in accordance with the requirements in this Section 4.2.21 and its subsections or any other requirements set forth elsewhere in the Contract Documents.

(i) The Contractor's request for information shall be prepared and submitted in accordance with the requirements detailed in the Specifications, on the form included therein, or as otherwise approved or directed in advance in writing by the Architect or Construction Manager. The Architect will return requests for information that do not conform to requirements of the Contract Documents.

(ii) The Architect's response to a request for information (RFI), or issuance of a clarification or interpretation shall be considered an interpretation, clarification, supplemental information or an order for a minor change in the Work not involving an adjustment in Contract Sum or extension of Contract Time and not inconsistent with the intent of the Contract Documents, and shall be binding on Contractor, unless expressly provided otherwise in the Architect's response to the RFI.

(iii) If appropriate, the Architect may prepare and issue supplemental Drawings and Specifications in response to the requests for information.

§ 4.2.21.1 Prior to submitting each RFI, Contractor shall first carefully study and compare the Contract Documents, field conditions, other Owner provided information, coordination Drawings, and prior Project correspondence and

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documentation to determine that the information to be requested is not reasonably obtainable from such sources. Each RFI shall identify the specific sources which were reviewed by the Contractor in an effort to determine the information requested, and a statement to the effect that the information being requested could not be determined from such sources.

§ 4.2.21.2 Unless specifically provided otherwise elsewhere in the Contract Documents, the Contractor shall be responsible to generate its own RFI log with weekly updates and provide same to the Construction Manager. This log shall contain the Drawing reference or Specification section to which the request pertains, the date of the request, to whom the request was made, by whom the request was made, the nature of the request, and the Architect's resolution thereof. This log shall be reviewed at each Project meeting.

§ 4.2.21.3 The Contractor shall reimburse the Owner amounts charged to the Owner by the Architect and/or Construction Manager for responding to Contractor requests for information where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner provided information, coordination Drawings, or prior Project correspondence or documentation.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 General

§ 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 **or to otherwise furnish labor, material or other services with respect to a portion of the Work**. 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 other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 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 **or to otherwise furnish labor, material or other services with respect to a portion of the Work**. 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.

§ 5.1.3 Refer to Div. 1 of the Specifications for requirements for a delivery of a list of proposed Subcontractors to Construction Manager and Architect. The listing required by this Section shall be submitted to the Architect (and/or Construction Manager) no later than 15 days from the date of notice of the award of this Contract. Unless otherwise specified in the Contract Documents, this list shall include the names of manufacturers, suppliers, and installers proposed for each of the products, equipment, and materials to be incorporated into the Project. The Contractor shall furnish upon request adequate data on any named entity on the list in order to permit the Architect and the Owner to conduct a proper evaluation. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents and all products furnished by the listed manufacturer must conform to such requirements.

§ 5.2 Intentionally Omitted.

(Paragraphs deleted)

§ 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, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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.

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§ 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 from and after the date on which Owner determines to accept any subcontract agreements(s). All sums due and owing by Contractor to any Subcontractor(s) and/or supplier(s) for Work performed or material supplied prior to the date of Owner's election to accept assignment of such subcontract agreement(s) and/or purchase order(s), if any, shall constitute a debt between such Subcontractor(s)/material supplier(s) and Contractor only. Contractor shall deliver acknowledgment in form and substance satisfactory to Owner from each of its Subcontractors and suppliers of the contingent assignment described herein whenever requested by Owner in writing.

§ 5.4.2 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract agreements to a successor Contractor or other entity.

(Paragraph deleted)

§ 5.5 Owner Payments to Subcontractors

§ 5.5.1 In the event of any default hereunder by the Contractor, or in the event the Owner, Construction Manager, or Architect fails to approve any Application for Payment, that is not the fault of a Subcontractor, the Owner may make direct payment to the Subcontractor, less appropriate retainage. In that event, the amount so paid the Subcontractor shall be deducted from the payment due to the Contractor.

§ 5.5.2 Nothing contained herein shall create any obligation on the part of the Owner to make any payments to any Subcontractors, and no payment by the Owner to any Subcontractor shall create any obligation to make any further payments to any Subcontractor, nor shall it create any contractual or other relationship between Owner and Subcontractor.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 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 the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 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 Among Contractor and Contractors and/or Owner's Separate Contractors or Owner's Own Forces

§ 6.2.1 The Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other 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's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect of all reasonably discoverable

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discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of any reasonably discoverable discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' 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 Contractors or other Contractors that are not reasonably discoverable.

§ 6.2.3 The Contractor shall not commit or permit any act which will interfere with the performance of work by any of Owner's own forces, Separate Contractors or other Contractors involved with any work on the Project or at the Project site. The Contractor shall, to the fullest extent permitted by law, reimburse and otherwise indemnify and hold harmless the Owner for costs the Owner incurs, including costs that are payable to any Separate Contractors or to other Contractors, to the extent arising out of or relating to the Contractor's delays, improperly timed activities or defective construction. The Contractor's obligations hereunder shall survive the completion or termination of this Contract.

§ 6.2.3.1 If the Contractor sustains any damage through any act or omission of Owner's Separate Contractors or other Contractors performing work upon or at the Project site or of work that may be necessary to be performed for the proper execution of the Contractor's Work, the Contractor shall have no Claim or other claim against the Owner for such damage, but shall have a right to recover such damages, that are not waived by other provisions of the Contract Documents, from the Separate Contractors or other Contractors under provisions similar to the this Section 6.2.3 and 6.2.3.1 (and its subsections), that have or will be inserted into the contracts with the Separate Contractors and other Contractors.

(i) Should any Separate Contractors or other Contractors having a contract with the Owner for the performance of work upon or at the Project site, sustain any damage through any act or omission of the Contractor hereunder or through any act or omission of any Subcontractor of the Contractor, the Contractor agrees to reimburse such Separate Contractors or other Contractors for all such damages.

(ii) The Contractor agrees, to the fullest extent permitted by law, to indemnify and hold harmless the Owner, Architect, and Construction Manager from all claims, damages, losses, liabilities, demands, lawsuits, causes of action, judgments, costs and expenses, of every kind, character, nature or type (including, but not limited to, attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder)), made against or suffered by any of them, to the extent arising out of or relating to Contractor's acts or omissions or the acts or omissions of any its Subcontractors or anyone directly or indirectly employed by any of them or anyone whose acts any of them are liable. The Contractor's obligations herein are in addition and without limitation to all other obligations of Contractor to Owner and/or Construction Manager and/or Architect and/or any other party indemnified hereunder that exist under the Contract or at law or in equity. The rights of Owner, and/or Construction Manager, and/or Architect, and/or any other party indemnified hereunder are in addition and without limitation to all other rights and remedies of such parties that exist under this Contract or at law or in equity.

(iii) The Owner's right to indemnification hereunder shall in no way be diminished, waived, or discharged, by the exercise of any other right or remedy provided by the Contract or by law or in equity.

(iv) The Contractor's obligations hereunder and all terms and conditions of Sections 6.2.3 and 6.2.3.1 (and its subsections) shall survive the completion or termination of this Contract.

§ 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, Separate Contractors, or other Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors 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

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If a dispute arises among the Contractor, Separate Contractors, other 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, without providing any prior written notice to Contractor, may clean up and the Construction Manager, 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.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager 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. A change in the Contract Sum or Contract Time shall be accomplished only by Change Order or Construction Change Directive duly signed by the Owner. Accordingly, no course of conduct or dealings between the Parties, or between Contractor and Construction Manager and/or Architect, or express or implied acceptance of alterations or additions to the Work shall be the basis of any Claim for an increase in the Contract Sum or any amounts due under the Contract Documents or an extension of the Contract Time.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, 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.

§ 7.2.2 All change proposals for changes in the Work or extra Work by the Contractor shall be submitted to the Construction Manager, with a complete labor and material breakdown in such detail and with such backup documentation as required elsewhere in the Contract Documents or as required by the Construction Manager or Owner in either of their discretion. Current labor rates for all trades are to be submitted to the Construction Manager by the Contractor no later than the first scheduled job meeting. When both additions and deductions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase or decrease.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager 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.

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§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner in consultation with the Construction Manager and 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 Owner and Construction Manager 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 Construction Manager and Architect;

.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.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 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Owner and Construction Manager in writing 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.

§ 7.3.6 If the Contractor disagrees with the adjustment in the Contract Sum and/or Contract Time, the Contractor may make a Claim pursuant and subject to the applicable provisions of Article 15.

§ 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 Construction Manager and Architect, subject to Owner's approval. 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 shall not be paid for Work completed under the Construction Change Directive in Applications for Payment. Contractor shall perform such Work without payment, subject to its rights to pursue a Claim for such as provided in and subject to Article 15 and other applicable provisions of the Contract Documents. Any refusal by the Contractor to commence or perform any disputed Construction Change Directive Work or any other disputed Work for which it Claims or requests a Change Order, as directed by Owner, shall constitute a material breach of this Contract by Contractor.

§ 7.3.10 Agreement to any Change Order (whether resulting from change order request/Claim by Contractor or Construction Change Directive or otherwise) shall constitute a final settlement by Contractor of all matters arising out of or relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and/or the Contract Time.

§ 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 Construction Manager immediately in writing 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 written notice to the Construction Manager that such change will affect the

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Contract Sum or Contract Time, the Contractor expressly 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 only as may be allowed pursuant and subject to all terms of this Contract, allotted in the Contract Documents for Substantial Completion of the Work. Notwithstanding anything elsewhere in this A232-2019 (as modified) or in the other Contract Documents to the contrary, the Contract Time (Required Substantial Completion Date and/or any Milestone Dates) shall only be modified by a Change Order signed by Owner.

§ 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. Milestone Dates are dates critical to the Owner's operations that establish when a part of the Work is to commence or be complete. All Milestone Dates, to the extent that there are any in the Project Schedule, are of the essence and shall have the same meaning as the Required Substantial Completion Date for the purpose of Liquidated Delay Damages in this Article 8. Liquidated Delay Damages applied to Substantial Completion shall apply likewise to Milestone Dates when completion requirements for such are missed and shall be incurred until the completion requirements for such Milestone Dates are actually achieved.

§ 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 and entering into this Contract, the Contractor confirms that the Contract Time is a reasonable period for performing the Work. Contractor recognizes that the Project Schedule is of critical importance to the Owner. All aspects of construction must reflect that 'TIME IS OF THE ESSENCE' to the Owner.

§ 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. Failure to prosecute the Work diligently, using such means and methods of construction consistent with the requirements of this Contract to ensure that the Work of the Project meets all Milestone Dates and the Required Substantial Completion Date shall jeopardize the overall Project Schedule. This failure will mandate Contractor to increase staff, work overtime, or use other means to recover time, at the costs of Contractor. In addition, all costs due to delays in completion of the Work shall be borne by the Contractor and any other Contractors responsible for delays.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 Contractor No Damage for Delay. Contractor acknowledges that delays, whether or not foreseeable or anticipated, are common to construction projects of this nature, that, by way of example, and without limitation: the Drawings and Specifications and other Contract Documents for the Project may be incomplete and/or contain errors and discrepancies which will necessitate the issuance of revised Drawings and/or Specifications and/or other Contract Documents and may necessitate Change Orders to correct existing deficiencies; that changes to the Drawings and/or Specifications and/or other Contract Documents often require extensive and time consuming reviews by many individuals before they may be approved or ratified; that the processing of Shop Drawings and other submittals and RFIs and their responses may be inordinately slow; that there may be delay, impact, hindrance or interference from any number of factors, including, without limitation, any acts or omissions (in any number, or of any kind or characterization) by other Contractors or Separate Contractors retained by Owner or visitors to the Project site, or by the Owner, Construction Manager, or Architect, or any of their consultants or representatives (including, without limitation, from directions given or not given or scheduling and coordination of the Work by any of them); and that Contractor may encounter adverse weather conditions or force majeure events, or other Excusable Delays (as such term is defined herein below in Section 8.3.2); all of which, whether or not foreseeable or anticipated are deemed "Contemplated Delays". Accordingly, and notwithstanding any other provisions in the Contract Documents to the

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Contrary, to the fullest extent permitted by law and except to the extent expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any Claim for, and contractually assumes the risk of, any and all loss and expense and damages for delay, interference, hindrance or impact to the progress of its Work, loss of productivity or efficiency, loss of profit, extended home office overhead or any increased costs (including but not limited to increased labor or material costs), for or on account of any delay, obstruction, interference or hindrance, or other impacts to the performance of its Work for any reason whatsoever, including, without limitation, Contemplated Delays, it being understood that the risk for all loss and expense for delay and Contractor's assumption thereof has been anticipated by Contractor's execution of this Contract. IT IS EMPHASIZED THAT NO MONETARY RECOVERY MAY BE OBTAINED BY THE CONTRACTOR FOR ANY DELAY, INTERFERENCE, HINDERANCE, OR IMPACT, AGAINST THE OWNER, OR CONSTRUCTION MANAGER OR ARCHITECT BASED ON ANY REASON AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME FOR COMPLETION OF THE WORK, the amount of which shall be pursuant and subject to the terms set forth in this Contract. The intent of this section is to avoid protracted costly litigation as to whether delays, should they occur, were anticipated or unanticipated, foreseeable or unforeseeable, reasonable or unreasonable or as to whether or not they were the fault or responsibility of Contractor, other Contractors, Owner, Construction Manager, Architect, or Separate Contractors. Contractor agrees that all such delays, interferences, hindrances, and/or impacts, regardless of duration, are within the contemplation of the Parties. Contractor has certified that it has considered, as an experienced contractor, the risk of encountering such delays, interferences, hindrances, and/or impacts in reaching agreement with Owner on the Contract Sum for the Work.

§ 8.3.2 Extensions of Contract Time for Excusable Delay. Absent Contractor's breach of contract or negligence in the performance of its Work and obligations under this Contract, Contractor shall be entitled to an extension of the Contract Time pursuant to a Change Order signed by Owner in the amount of time determined by Owner in its reasonable discretion to be appropriate for delays caused by the following occurrences, but only if such delays are proven to Owner in its reasonable discretion to demonstrably affect the critical path of the Project Schedule as relating to the Work of this Contract: the consequences of Acts of God (such as tornado, flood, fire, hurricane, etc.); unusually adverse weather; industry-wide labor strikes or industry-wide material shortages; wars or acts of terrorism; rebellion; riot; civil disobedience; embargoes; sabotage; stop work orders issued or other action or inaction by governmental or other authorities having jurisdiction over the Project or the Work and outside the reasonable control of Contractor; the presence of hazardous materials that are not the responsibility of the Contractor or about which Contractor does not reasonably have knowledge at the time of execution of the Contract; **non-compliance of the Drawings and Specifications with laws, statutes, regulations and other legal requirements (unless otherwise the responsibility of the** Contractor **pursuant to the Contract Documents);** changes to laws, statutes, regulations and other legal requirements after execution of this Agreement **(unless otherwise the responsibility of the** Contractor **pursuant to the Contract Documents);** actions or inactions of the Construction Manager, Architect, the other Contractors, Owner's Separate Contractors, or Owner, which occur through no fault of the Contractor; the Construction Manager's or Architect's failure to reasonably furnish instructions or Drawings or to reasonably act on submissions through no fault of Contractor; or events outside the reasonable control of Contractor (for which it is not contractually responsible) which could not have been reasonably foreseen by Contractor in the development of its construction schedule or the Project Schedule for the Work of this Contract (collectively **"Excusable Delays"**). If the Contractor is delayed at any time in the commencement or progress of the Work by any **Excusable** Delays, then the Contractor shall submit a Claim for an extension of the Contract Time as set forth in Section 8.3.2.1 and its subsections, and, for Claims not waived by Contractor by operation of Article 8 or Article 15 or other applicable provisions of the Contract Documents, the Contract Time may be extended by Change Order for such reasonable time as the Owner may determine in its sole, reasonable discretion. No such Change Order extending the Contract Time, however, shall result in any increase in the Contract Sum or any increased payments to the Contractor for overhead, extended overhead, profit, or for any other amounts of any nature whatsoever (see Section 8.3.1 above regarding no damage for delay).

§ 8.3.2.1 Time Limits and Other Requirements for Contractor's Notice of Claims for Extension of Contract Time for Excusable Delay. Notwithstanding anything contained elsewhere in the Contract Documents to the contrary, it is an express condition precedent to Contractor's ability to pursue any Claim for extension of Contract Time that the Claim must be initiated by written notice by Contractor to the Owner with a copy sent to the Construction Manager and Architect in strict compliance with the timing and all other requirements of this Section 8.3.2.1 (and its subsections). So that the Owner can properly investigate the Claim and mitigate the effects thereof, TIME IS EXPRESSLY OF THE ESSENCE WITH RESPECT TO CONTRACTOR'S GIVING OF NOTICE OF CLAIM TO OWNER WITH THE INFORMATION AS PROVIDED HEREIN AS AN EXPRESS CONDITION PRECEDENT TO ITS ABILITY TO ASSERT OR OTHERWISE PURSUE ANY CLAIM FOR EXTENSION OF THE CONTRACT TIME.

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§ 8.3.2.1.1 Any Claim for Contract Time extension relating to a Excusable Delay shall: (i) be made by Contractor to Owner in writing, with a copy sent to the Construction Manager and Architect, within five (5) days after the Contractor knew or should have known of the occurrence of the event(s) causing the Excusable Delay; (ii) state the basis for the Claim for Excusable Delay; (iii) to the extent practicable, include demonstrable proof that the Excusable Delay affects the critical path of the Project Schedule for the Work, and if not practicable, state the basis why it is impracticable to provide such, and thereafter provide such demonstrable proof within fifteen (15) days; and (iv) suggest strategies to Owner and Construction Manager to mitigate the effect of any such delay, including, without limitation, overtime, re-sequencing, and other remedial methods.

§ 8.3.2.1.2 The Contract Time, as set forth in the Contract, Contractor's schedule and the Project Schedule, shall include an allowance for delays due to reasonably anticipated adverse weather for the area where the Work is located. For the purpose of establishing that abnormal adverse weather conditions have caused a delay, and determining the extent of delay attributed to such weather conditions, the Contractor shall furnish with its notice of Claim (in addition to the information required in Section 8.3.2.1.1 above), National Oceanic and Atmospheric Administration (NOAA) National Weather Service records of climatic conditions during the same time interval for the previous five (5) years for the locality of the Work, the Contractor's daily job site logs/daily construction reports showing weather, job activities, and the effect of weather on the progress of the Work; and an impact schedule showing the effects of the weather event on the critical path of the Contractor's schedule.

§ 8.3.2.1.3 Failure of the Contractor to strictly comply with the requirements of Section 8.3.2 (and its subsections) shall be deemed a conclusive and express waiver by the Contractor of any and all Claims for extension of the Contract Time regarding delay arising from such conditions, occurrences, or events, and Contractor shall not be entitled to and forfeits any right it may have under this Contractor at law or in equity for any recovery or remedy regarding such.

§ 8.3.2.1.4 Failure of the Owner to respond in writing within ten (10) days following delivery of Contractor's written notice required by this Section 8.3.2.1 and its subsections shall be deemed a rejection of the Claim.**§ 8.3.2.1.5** The determination of the Owner regarding any Claim for an extension of Contract Time in response to any notice by Contractor as provided herein shall be binding and conclusive on the Contractor.

§ 8.3.2.1.6 Permitting the Contractor to continue with the Work after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the Contractor after such time, shall in no way operate as a waiver on the part of the Owner of any of its rights and remedies.

§ 8.3.2.1.7 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of any multiple number of causes of Excusable Delay that have concurrent or interrelated effects on the critical path of the Project Schedule for the Work.

§ 8.3.3 To the extent the Contractor is required to work during overtime hours, weekends, holidays or at other times which are not regularly scheduled, due to the fault of the Contractor, or where Contractor requests to work during these periods to facilitate its schedule, the Contractor shall be responsible for the costs incurred by the Owner, the Construction Manager, the Architect and/or others attributable to working during periods which have not been ordinarily scheduled.

§ 8.4 Liquidated Delay Damages. IT IS AGREED THAT TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS CONTRACT. IN THE EVENT CONTRACTOR FAILS TO ACHIEVE SUBSTANTIAL COMPLETION OF THE WORK BY THE REQUIRED SUBSTANTIAL COMPLETION DATE OR ACHIEVE ANY EARLIER MILESTONE DATES, CONTRACTOR AGREES TO PAY OWNER LIQUIDATED DELAY DAMAGES AS SET FORTH HEREIN. Contractor acknowledges that the date for Substantial Completion of the Work as required under the Contract Documents is of the foremost importance and that its failure to achieve Substantial Completion of the entire Work of its Contract for the Project no later than the Required Substantial Completion Date set forth in Section 3.4 of the Agreement (modified A132-2019) and the approved Project Schedule (as may only be adjusted per the terms of this Contract) will result in extreme hardship to Owner and will irreparably interfere with Owner's obligations and commitments, and that it would be extremely difficult and impractical to ascertain and fix the actual damages the Owner would incur. Accordingly, the Parties hereby stipulate and agree that if Contractor shall fail to achieve the Required Substantial Completion Date, Contractor shall be assessed the agreed upon liquidated damages amount of Five Hundred and 00/100 Dollars ($500.00) per day commencing on the first day after the Required Substantial Completion Date, as such amount is agreed to be the amount of damages Owner would sustain and such amount shall not be construed as a penalty but as liquidated damages for breach of contract as a reasonable estimate of the damages Owner will suffer as

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relating to such delay ("Liquidated Delay Damages"). Such Liquidated Delay Damages shall not be in lieu of or related Owner's actual damages relating to deficiencies or defective Work or to other breaches of the Contract separate from delayed completion. Liquidated Delay Damages shall begin to accrue when the Work under this Contract is not complete by the Required Substantial Completion Date and shall continue to accrue until the date on which the Work of the entire Contract is complete. Since the earlier Milestone Dates, if any, that are included in the Project Schedule for the Work are integral in achieving Substantial Completion of the entire Work by the Required Substantial Completion Date and impact the entire Project Schedule, Liquidated Delay Damages in the daily amount provided herein above shall apply when the Work under the Contract is not completed by any earlier Milestone Dates and shall be incurred until the completion requirements for such Milestone Dates are actually achieved. Any Liquidated Delay Damages incurred by Contractor may be withheld from progress payments at Owner's sole discretion.

§ 8.4.1 No Release. It is further expressly agreed and understood that Owner's assessment of Liquidated Delay Damages is intended to compensate Owner solely for Contractor's failure to meet the Required Substantial Completion Date deadline (and any earlier Milestone Dates) and shall not release Contractor from liability from any other breach of requirements set forth in any of the Contract Documents, including, without limitation, any failure of the Work to conform to applicable requirements.

§ 8.5 Acceleration Due to Contractor Delay – Extraordinary Measures

§ 8.5.1 Extraordinary Measures. In the event the Owner determines that the performance of the Work, relative the Required Substantial Completion Date and/or earlier Milestone Dates for the Project Schedule as relating to the Work of this Contract has not progressed or reached the level of completion required by the Contract Documents, and such delayed performance was not caused by an Excusable Delay for which the Owner in its reasonable discretion has agreed to an extension of Contract Time pursuant to Section 8.3.2 (and its subsections) above, the Owner through the Construction Manager shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction of the Work ("Extraordinary Measures"). The Owner's right to require Extraordinary Measures is solely for the purpose of providing a potential opportunity to compel the Contractor's compliance with the Project Schedule for the Work of this Contract relating to delayed performance for which the Contractor has not developed alternative recovery plans acceptable to the Owner. The Owner's right to order the Contractor to take corrective Extraordinary Measures pursuant to this Section 8.5.1 include, without limitation: (1) working additional shifts or overtime; (2) supplying additional manpower, equipment and facilities; (3) rescheduling activities; and (4) other similar measures. Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Project Schedule for the Work of this Contract as determined by the Construction Manager.

§ 8.5.2 The Contractor shall not be entitled to an adjustment to the Contract Sum in connection with Extraordinary Measures required by the Owner pursuant to this Section 8.5 and its subsections.

§ 8.5.3 The Owner may exercise the rights furnished the Owner under or pursuant to this Section 8.5 and its subsections as frequently as the Owner deems necessary to ensure that the Contractor's performance of the Work will comply with the Required Substantial Completion Date (and any earlier Milestone Dates) set forth in the Agreement or Project Schedule for the Work.

§ 8.5.4 Any rights conferred on the Owner pursuant to this Section 8.5 and its subsections or in any other portion of the Contract Documents shall neither require Owner to exercise such rights for the benefit of itself or the Contractor or any other person or entity or, nor shall they make Owner responsible in any way whatsoever for the Contractor's obligation to complete the Work of the Contract by the Required Substantial Completion Date and any Milestone Dates in conformance with the Project Schedule and all Contract Documents.

§ 8.5.5 Any refusal by the Contractor to commence or perform such acceleration/expedited Work (Extraordinary Measures) when appropriately demanded by Owner (either directly or through the Construction Manager) pursuant to this Section 8.5 (and its subsections) shall constitute a material breach of this Contract by Contractor.

§ 8.6 Acceleration for Owner's Convenience. Even in the event the Contractor is not delayed in its Work related to the Required Substantial Completion Date or any earlier Milestone Dates, at the Owner's option, the Contractor shall Work additional shifts or overtime, and/or supply additional manpower, equipment and facilities, and/or take other similar measures as directed by the Owner in writing, and the Owner shall have the right to expedite the Work, even out of sequence. Provided the Contractor is: (i) not behind in the progress of its Work relative to the Required Substantial Completion Date or any earlier Milestone Dates, and (ii) not otherwise in default of any of the provisions of the Contract Documents; the Owner shall reimburse the Contractor for the actual and reasonable out of pocket

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additional labor costs (i.e., additional wages, fringe benefits, insurance) associated with such acceleration and/or overtime Work. Time slips covering said additional wages must be submitted by Contractor and checked and approved by the Construction Manager on a daily basis. Any refusal by the Contractor to commence or perform such acceleration and/or overtime Work shall constitute a material breach of this Contract by Contractor.

§ 8.6.1 If the Owner demands acceleration for its convenience pursuant to this 8.6 and its subsections it shall only be in writing directly from Owner to Contractor with an express identification that the Owner is demanding acceleration for Owner's convenience pursuant to this Section 8.6 and its subsections. Any other demand or request for acceleration shall be deemed to be a demand under Section 8.5 and its subsections (Extraordinary Measures) at no cost to Owner. In the event that Contractor believes that some action on the part of Owner constitutes an acceleration for convenience directive under this Section 8.6 and its subsections, the Contractor shall immediately notify the Owner in writing that Contractor considers the actions as a demand for acceleration for Owner's convenience. This written notification from Contractor shall detail the circumstances of the claimed demand for acceleration for Owner's convenience. Failure of Contractor to deliver such written notice to Owner prior to commencement of any acceleration efforts shall be deemed a conclusive representation by Contractor that it agrees that any such activities and efforts are required by the Contract Documents as part of its base Work and/or are provided pursuant to Section 8.5 above and its subsections at no cost to Owner with no adjustment of the Contract Sum, and Contractor agrees that is shall be forever estopped from asserting otherwise. The Contractor shall not accelerate its efforts until the Owner responds in writing to any written notification from Contractor to Owner hereunder. If acceleration is then directed or required by the Owner, all cost records relating thereto shall be maintained by the Contractor and provided to the Owner through the Construction Manager on a daily basis. The Contractor shall keep cost and other Project records related to any acceleration for Owner's convenience separately from other Project costs and records and shall provide a written record of such costs to the Owner through Construction Manager on a daily basis.

§ 8.6.1.1 As a further requirement in order to preserve a Claim to recover additional costs due to acceleration for Owner's convenience, the Contractor must document that additional expenses were actually incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

§ 8.7 This Article 8 does not preclude recovery of damages for delay by Owner 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 only pursuant and subject to all applicable terms of the Contract Documents, is the total amount payable by the Owner to the Contractor for performance of the Work and all other obligations under the Contract Documents.

§ 9.1.2 Notwithstanding anything to the contrary contained in the Contract Documents, the Owner may withhold any payment to the Contractor hereunder if the Owner determines in its sole discretion that the Contractor has failed to adequately perform its Work or is otherwise in default under any of the Contract Documents; provided, however, that any such withholding shall be limited to an amount (as determined by Owner in its sole discretion) sufficient to cure any such default or failure of performance by the Contractor and is otherwise in compliance with applicable law.

§ 9.2 Schedule of Values

Contractor shall submit a "Schedule of Values" to the Construction Manager, 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 Construction Manager and the Architect. The Schedule of Values submitted by Contractor will be adjusted as required by Construction Manager or Architect as necessary for their approval. This schedule, once approved by the Construction Manager and Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's Schedule of Values. There shall be no changes to the Schedule of Values except as expressly directed or approved by the Construction Manager and Architect in their discretion, and Contractor shall, at any time requested by Construction Manager or Architect throughout the duration of the Project, submit such data to substantiate its accuracy as the Construction Manager and the Architect may require. The

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Schedule of Values shall be provided on the AIA G703 form and no payments will be made to Contractor until such billing breakdown and initial submissions are approved.

§ 9.3 Applications for Payment

§ 9.3.1 On a monthly basis, the Contractor shall submit to the Construction Manager multiple originals of an itemized Application for Payment prepared in accordance with the Schedule of Values for completed portions of the Work in compliance with all requirements of Article 5 of the Agreement (modified A132–2019) and elsewhere in the Contract Documents. The application shall be notarized and supported by all data substantiating the Contractor's right to payment that the Owner, Construction Manager or Architect require, such as copies of requisitions, and releases and waivers of lien from Subcontractors and suppliers, and shall reflect retainage as provided for in the Contract Documents. The form Application for Payment, duly notarized, shall be the most recent authorized edition of AIA Document G732, Application and Certificate for Payment, supported by the most recent authorized edition of AIA Document G703, Continuation Sheet.

§ 9.3.1.1 As provided in Section 7.3.9, such applications shall not include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives.

§ 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.

§ 9.3.2 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 and under such terms as required by Owner in its sole discretion. 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 Without limitation to the generality of Section 9.3.2: (i) Contractor shall obtain the consent of any Surety to the extent required prior to payment for any materials stored off the Project site; (ii) representatives of the Owner shall have the right to make inspections of the storage areas at any time; and (iii) such materials shall be (1) protected from diversion, destruction, theft and damage to the satisfaction of the Owner, (2) specifically marked for use on the Project, and (3) segregated from other materials at the storage facility.

§ 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 be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials and equipment relating to the Work.

§ 9.3.4 In connection with all progress payments, the Contractor shall submit releases/waivers of lien with respect to all Work previously performed and for which payments were made under a preceding application. Beginning with the second payment requisition and with each subsequent payment requisition, Contractor shall furnish to Owner, without limitation, the following documents:

a. Labor and/or Materials Affidavit;
b. Daily and Weekly Wage Affidavit;
c. Contractor's Partial Release and Waiver of Lien;
d. Subcontractors' and suppliers' Partial and/or Final Releases of and Waivers of Lien;
e. Written Certified Payroll information in compliance with applicable laws; and
f. Additional information required by the Construction Manager, Owner, and/or any applicable laws, codes, rules and or regulations applicable to the Work of the Contractor.

§ 9.4 Certificates for Payment

§ 9.4.1 Pursuant to the procedures and timelines set forth in Article 5 of the Agreement (modified A132–2019) and elsewhere in the Contract Documents, after receipt of the Contractor's Application for Payment, the Construction Manager and Architect will either (1) issue to the Owner a Certificate for Payment in the full amount of the

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Application for Payment; or (2) issue to the Owner a Certificate for Payment for such amount as the Construction Manager and Architect determine is properly due based upon their respective reviews of same, and notify the Owner of the Construction Manager's and 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 Owner of theConstruction Manager's and Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the notice of withholding certification.

§ 9.4.2 Intentionally Omitted.

(Paragraph deleted)

§ 9.4.3 The Construction Manager's certification of an Application for Payment shall be based upon the Construction Manager's evaluation of the Work, to and for the benefit of the Owner only, and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation, to and for the benefit of the Owner only, that, to the best of the Construction Manager'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, or Contractors are, entitled to payment in the amount certified (subject to all other terms of this Contract).

§ 9.4.4 The Architect's issuance of a Certificate for Payment shall be based upon the Architect's evaluation of the Work, to and for the benefit of the Owner only, the recommendation of the Construction Manager (to and for the benefit of the Owner only), and data in the Application for Payment. The Architect's certification will constitute a representation, to and for the benefit of the Owner only, 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, or Contractors are, entitled to payment in the amount certified (subject to all other terms of this Contract).

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 are made to and for the benefit of the Owner only, and are further subject: (i) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (ii) to results of subsequent tests and inspections, (iii) to correction of minor deviations from the Contract Documents prior to completion, and (iv) to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.6 Without limitation to any separate obligations of either Construction Manager or Architect to Owner in their respective contracts with Owner, the issuance of a Certificate for Payment will not be a representation that the Construction Manager or 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 Construction Manager or Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor, Construction Manager 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 Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the 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;

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.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 or any other Contractors;
.6 reasonable evidence that the Work will not be completed within the Contract Time, or that the unpaid balance would not be adequate to cover Liquidated Delay Damages for the anticipated delay;
.7 any failure to carry out the Work in accordance with the Contract Documents;
.8 violations of law applicable to the Work which are the responsibility of Contractor;
.9 erroneous estimates of the percentage of Work performed;
.10 failure of Contractor to comply with any requests by Construction Manager or Architect for maintaining record drawings (*NOTE* - Contractor may be required to produce record as-built drawings each month. Written confirmation that the record as-built drawings are up to date may be required by the Architect before approval of the Contractor's monthly Application for Payment will be considered).

§ 9.5.2 If the Contractor disputes the Construction Manager's and/or Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, the Contractor shall submit a Claim pursuant and subject to Article 15 and any other relevant terms of this Contract. If the Contractor disputes any determination by the Construction Manager or Architect with regard to any Certificate of Payment (or any withholding of certification thereof in whole or in part), the Contractor shall nevertheless expeditiously continue to prosecute the Work, and failure to do so shall be a material breach of this Contract.

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

§ 9.5.4 The Owner shall not be deemed to be in breach of this Contract by reason of the withholding of any payment pursuant to any provision of the Contract Documents or applicable law.

§ 9.5.5 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option and without any obligation to do so, 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 Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

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

§ 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. Notwithstanding anything in the Contract to the contrary, the Contractor shall pay each Subcontractor or materialman as required by New York General Municipal Law Section 106(b), for work performed by the Subcontractor or materialman under this Contract. The Contractor shall include in each of its Subcontracts a provision requiring each Subcontractor to make payment to each of its subcontractors or suppliers for Work performed under this Contract in the same manner and within the same time period as set forth herein.

§ 9.6.3 The Construction Manager may, 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 Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right but no obligation 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 three (3) days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager 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.

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§ 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 nor relieve Contractor of any of its obligations under the Contract.

§ 9.6.7 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 in conformance with this Contract and applicable law.

§ 9.6.8 Mechanic's Liens and Related Claims. Provided that Owner has made payments to the Contractor in accordance with the provisions of this Contract, including permitted deductions and withholding, Contractor shall, to the fullest extent permitted by law, wholly and fully indemnify and hold harmless Owner from and against any and all mechanic's liens or claims by Contractor's employees, laborers, material suppliers, Subcontractors, or any others for whom Contractor is responsible in connection with the Work, and against all damages, liability, costs and expenses arising out of or relating thereto, including all reasonable attorneys' fees and disbursements (including attorneys' fees relating to the enforcement of this provision, and any appeals, and in obtaining judgments and collection of such costs and expenses), that Owner may suffer or incur as a result thereof. In connection with the foregoing, Contractor shall secure the prompt discharge and/or removal of all mechanic's liens filed in connection with the Work (by posting a suitable bond pursuant to or otherwise in accord with applicable law) within thirty (30) days of notice from the Owner. If Contractor fails to commence the process to discharge or remove or bond any lien within five (5) days after notice of the lien, and notify Owner thereof in writing that it is doing so, or if Contractor thereafter commences the same but fails to diligently prosecute and achieve such discharge or removal or bonding to the satisfaction of Owner in its sole discretion within the thirty (30) days required for such, Owner shall have the right, but not the obligation, to remove or discharge such lien and deduct the cost thereof (including reasonable attorneys' fees, disbursements, and other necessary costs) from any payment due the Contractor. Upon the filing of any lien, the Owner may, without obligation, withhold from Contractor all moneys that Owner reasonably determines it may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees. The provisions of this section are in addition to any other rights available to the Owner under the Contract and/or any Payment Bonds provided by Contractor and/or at law or equity and shall survive the completion of the Work, its final acceptance, the making of final payment to the Contractor, and/or the termination of the Contract.

§ 9.7 Failure of Payment

If through no fault of the Contractor: (i) the Construction Manager and Architect do not issue a Certificate for Payment in an amount determined to be appropriate by the Construction Manager and Architect or provide notice of withholding certification in whole pursuant to the terms of the Contract Documents , within thirty (30) days after the Construction Manager's receipt of the Contractor's Application for Payment, or (ii) if the Owner does not pay the Contractor within thirty (30) days after the date established in the Contract Documents the amount certified by the Construction Manager and Architect and such certified amount is not otherwise appropriately withheld by Owner pursuant to operation any of the terms and conditions of the Contract Documents , then the Contractor may, upon seven (7) additional business days' written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount appropriately owing has been received. The Contract Time shall be extended appropriately 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 such that the Work shall have been completed and all systems included in the Work shall be operational in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use to the reasonable exclusion of Contractor with only "punch-list" or minor items remaining which can be corrected or completed without any material interference with Owner's use of the Work and the Project.

§ 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 notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed

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or corrected prior to final payment (punch-list). 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.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 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, assisted by the Construction Manager, to determine Substantial Completion. If, through any fault of Contractor, the Architect and/or Construction Manager are required to perform more than two (2) inspections to determine whether the Work has reached Substantial Completion because the Work fails to comply with the Contract Documents, the amount of compensation paid to the Architect and/or Construction Manager by Owner for additional services and Owner's attorneys' fees relating to enforcement of Contractor's obligations shall be reimbursed by Contractor to Owner and may at Owner's discretion be deducted from payments (or final payment) otherwise payable to Contractor, and if such amount is not adequate to reimburse Owner, then Contractor shall pay Owner the difference.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, 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 or elsewhere in the Contract Documents.

§ 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 pursuant and subject to all applicable terms of the Contract Documents, including, without limitation, Section 5.1.4.4 of the Agreement (modified A132-2019). Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents including, without limitation, Section 5.1.4.4. of the Agreement (modified A132-2019).

§ 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 Architect as appropriate for Owner's occupancy or use, provided such occupancy or use is consented to by any necessary insurers 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. . The stage of the progress of the Work shall be determined by decision of the Architect in consultation with the Construction Manager.

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

(Paragraph deleted)

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Following receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Applications for Payment, to the Architect, who will make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will issue a final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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

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payable. The Construction Manager's and Architect's final Certificate for Payment will constitute a further representation, to and for the benefit of Owner only, that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. If, through any fault of Contractor, the Architect and/or Construction Manager are required to perform more than two (2) inspections because the Work fails to comply with the Contract Documents, the amount of compensation paid to the Architect and/or Construction Manager by Owner for additional services and Owner's attorneys' fees relating to enforcement of the Contractor's obligations shall be reimbursed by Contractor to Owner and may at Owner's discretion be deducted from payments (or final payment) otherwise payable to Contractor and if such amount is not adequate to reimburse Owner, then Contractor shall pay Owner the difference.

§ 9.10.1.1 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner through the Architect and the Construction Manager (as directed) all documents and information required by the Contract Documents or reasonably requested by Architect or Construction Manager or Owner, including, without limitation the following:

.1 One (1) hard copy and one (1) electronic Record Set of Drawings showing actual construction of all portions of the Work and incorporating all changes and amendments thereto, as redlined against the 100% Construction Drawings.

.2 Guarantees and Warranties required by specific Sections of the Specifications, including documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties.

.3 Releases and Waivers of Claims (conditioned upon final payment, if relevant) from the Contractor, Subcontractors, Sub-subcontractors and material suppliers, and, if required by the Owner, other data establishing payment or satisfaction of obligations, such as additional 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.

.4 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,

.5 All mechanical and electrical installation, operating and maintenance manuals called for under the Specifications.

.6 All test reports and certifications required under the mechanical and electrical specifications.

.7 Shop Drawing submittals in accordance with Article 3.

.8 All forms required to be completed by the Contractor by regulatory governmental agencies or other authorities with jurisdiction over the Work or the Project, with two (2) copies delivered to the Architect.

.9 A copy of the unconditional final Occupancy Permit and/or Certificate of Compliance issued by the local building inspection department having jurisdiction, unless such is not issued for any reason that is not the responsibility of the Contractor under the Contract Documents.

.10 Manufacturer's current detailed installation instructions for fire dampers, ceiling radiation dampers, smoke dampers, and duct smoke detectors as applicable to the Project.

.11 One (1) copy of the equipment operational and maintenance manuals.

.12 A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect.

.13 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.

.14 Consent of surety to final payment.

§ 9.10.2 The Construction Manager and Architect shall additionally not issue the final Certificate for Payment until:

.1 the Project or that portion of the Project which encompasses the Work of the Contractor has been completed and accepted by Owner, Architect and Construction Manager, and;

.2 all procedures regarding final payment have been completed and the Owner has received state agency approval (if required) to make final payment, and otherwise all approvals and/or sign-offs have been obtained from any authorities having jurisdiction over the Work or the Project which are required with respect to the Work of this Contract.

§ 9.10.3 Intentionally Omitted.

§ 9.10.4

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(Paragraphs deleted)
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§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a full and express waiver of Claims or other claims by that payee.

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. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 10.1.1 Contractor shall submit its site safety and corporate safety policy/program to the Construction Manager immediately upon Construction Manager's request following notice of award of this Contract and no later than the time of execution of this Contract, unless otherwise specified elsewhere in the Contract Documents or as directed by Contractor in writing. The safety policy/program shall be in conformance with and meet or exceed OSHA standards and other applicable federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities. The safety policy/program shall also include provisions requiring Subcontractors to participate in safety training to acquaint such Subcontractors with the provisions of the Regulations of the Commissioner of Education (Section 155.5) and shall set forth how the Contractor plans to maintain a safe work environment.

§ 10.1.2 Without limitation to any other obligations in this Article 10 or elsewhere in the Contract Documents and/or in applicable law, and consistent with New York Labor Law §220-h, where the total cost of all Work to be performed under this Contract is at least two hundred fifty thousand dollars, it is required that all laborers, workers, and mechanics employed in the performance of the Contract on the Work site, either by the Contractor, Subcontractor or other person doing or contracting to do the whole or a part of the Work, 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.

§ 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;

.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;

.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; and

.4 construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 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 and give the Owner reasonable advance notice, and shall maintain on the site, a full set of safety instructions relating to all such materials.

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§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under Owner's property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4. The foregoing obligations of the Contractor are in addition and without limitation to the Contractor's obligations under Section 3.18, and otherwise at law or in equity. The Contractor's obligations herein shall survive the completion or termination of this Contract.

§ 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, Construction Manager 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 Contractor or any Subcontractor (or any of their employees or anyone for whom either of them are legally responsible) suffers injury or damage to person or property, written notice of the injury or damage, whether or not insured, shall be given to the Construction Manager and Owner within a reasonable time not exceeding seven (7) days after discovery. The notice shall provide sufficient detail to enable the Construction Manager and Owner to investigate the matter.

§ 10.2.9 Smoking and alcoholic beverages are expressly prohibited on all Owner properties. All persons representing Contractor or Subcontractors or suppliers shall wear proper attire while on Owner property. All persons representing Contractor or Subcontractors or suppliers shall conduct themselves in a manner consistent with the rules and policies of the South Orangetown Central School District while on Owner property. Contractors and Subcontractors, suppliers and their employees are to refrain from conversing with school personnel and students. Contractors, Subcontractors, suppliers, and their employees are to refrain from using indecent language and any doing so may be removed from the Project site. Artwork and decoration found on vehicles belonging to Contractors or Subcontractors employees parked on or near the Owner's property which contain indecent language or pictures shall be removed from the location. The use of radios and the like is prohibited within the Project site.

§ 10.2.10 To the extent required by Owner, Contractor shall follow Construction Manager's or Owner's instructions, rules, and regulations regarding registration and photo ID issuance and any requirements for ID badges or other identifiers for employees and laborers.

§ 10.2.11 Unless expressly specified otherwise elsewhere in the Contract Documents or subsequently in writing by Construction Manager or Owner, all crane picks, material delivery, etc. must be coordinated so as not to lift over any occupied area of the building. If necessary, this work shall be done on off hours to ensure the safety of the building occupants. Crane location must be carefully chosen to ensure the safety of building occupants. Also, Contractor must provide all engineering for crane sizing and sub-base platforms if necessary.**§ 10.2.12** The Contractor shall take all necessary precautions to ensure against fire during construction and be responsible to ensure that all Work areas are kept orderly and clean and at all times provide proper housekeeping and protections to minimize potential fire hazards and comply with all applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities regarding fire protection, prevention, and safety.

§ 10.2.13 From the commencement to the completion of the Work, the Contractor shall keep the Work and the Project site free from accumulation of water no matter what the source or cause of water.

§ 10.3 Hazardous Materials
§ 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, Construction Manager and Architect of the condition.

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§ 10.3.2 Upon receipt of the Contractor's notice regarding hazardous materials or substances not addressed in the Contract Documents, 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. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor and its Subcontractors from and against claims, damages, losses, and expenses, including but not limited to reasonable attorneys' fees, arising out of or resulting from performance of the Work in the affected area of hazardous materials or substances not addressed in the Contract Documents 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. The Contractor shall be responsible for hazardous materials or substances required by the Contract Documents, to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 To the fullest extent permitted by law, the Contractor shall reimburse, and indemnify and hold harmless the Owner for claims, damages, losses, cost and expense, including but not limited to reasonable attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), the Owner incurs arising out of or resulting from (1) 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, in both instances, to the extent that the claims, damages, losses, cost and expense are due to the Owner's fault or negligence. Contractor's obligations in this section are in addition and without limitation to its obligations elsewhere in this Contract (for indemnity and otherwise) or at law or in equity. The Contractor's obligations in this section shall survive the completion or termination of this Contract.

§ 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, to the fullest extent permitted by law, reimburse the Contractor for all cost and expense thereby incurred, except to the extent that any such costs and expenses are due to the Contractor's fault or negligence.

§ 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 and subject to Article 15, Article 7, Article 8, and any other applicable provisions of these General Conditions (A232-2019, as modified).

ARTICLE 11 INSURANCE AND BONDS – SEE EXHIBIT A TO A132- 2019 (SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT MODIFIED FORM 2023) – INSURANCE AND BONDS

(Paragraphs deleted)

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 Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their observation and examination and be replaced at the Contractor's expense without change in the Contract Time.

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§ 12.1.2 If a portion of the Work has been covered in conformance with requirements in the Contract Documents and the Construction Manager or Architect has not specifically requested to observe or examine such Work prior to its being covered, the Construction Manager or 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 Construction Manager or 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 Construction Manager's and Architect's services and expenses made necessary thereby and also including, without limitation, the Owner's reasonable attorneys' fees (and also, including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment or collections hereunder), shall be at the Contractor's expense. The rights of the Construction Manager or Architect to reject Work and/or the rights of Owner to require Contractor to correct Work not in accordance with the requirements of the Contract Documents pursuant to this paragraph shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one (1) 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 after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5. The right of the Owner to require Contractor to correct Work not in accordance with the requirements of the Contract Documents pursuant to this paragraph shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

§ 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, Separate Contractors, or other 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 physically correct the Work as provided herein.

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§ 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.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

This Contract shall, in all respects, be subject to and construed in accordance with the laws of the State of New York without giving effect to the conflict-of-laws provisions thereof that would direct or refer the resolution of any issue hereunder to the laws of another jurisdiction.

§ 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. Without limitation to Contractor's right to subcontract Work pursuant to the terms of the Contract Documents and applicable law, the Contractor shall not assign, transfer, convey, or otherwise dispose of the Contract or of Contractor's right, title, or interest in the Contract, or Contractor's power to execute this Contract, to any other person or corporation without prior written consent of the Owner. If Contractor attempts to make any such assignment, transfer, conveyance, or disposal, without such prior written consent, Contractor shall nevertheless remain legally responsible for all obligations under the Contract. This provision shall be deemed to be interpreted in accordance with New York General Municipal Law Section 109 and the requirements therein are incorporated herein by reference.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract if otherwise allowed under applicable law and, if the assignee 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 on Contractor and rights and remedies available to Owner thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law or in equity.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, or Architect 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 Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements and were not reasonably foreseeable by Contractor 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 Construction Manager, 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 Construction Manager and 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and 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

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such failure, including those of repeated procedures and compensation for the Construction Manager's and Architect's services and expenses and also including, without limitation, Owner's attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder) arising out of or related to same, 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 Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so in a reasonably prompt manner 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.

§ 13.5 The Contractor hereby expressly waives any rights it may have in law or in equity to lost bonding capacity as a result of any of the actions of the Owner, the Architect or the Construction Manager taken in connection with the Contractor's Work on the Project.

§ 13.6 It is the intent and understanding of the Parties to this Contract that each and every provision of law required to be inserted in this Contract shall be and is inserted herein. Furthermore, it is hereby stipulated that every such provision is to be deemed to be inserted herein, and if, through mistake or otherwise, any such provision is not inserted, or is not inserted in correct form, then this Contract shall forthwith be deemed amended by such insertion so as to comply strictly with the law.

§ 13.7 In addition and without limitation to any other waiver of damages by Contractor against Owner elsewhere in this A232 (as modified) and elsewhere in the Contract Documents, the Owner shall not be responsible for and Contractor expressly waives its right in law and equity to Claim against the Owner for: (i) all damages for loss of anticipated profits or any other damages whatsoever relating to Work not performed on account of any termination of the Contract by the Contractor or termination of the Contract by the Owner or by virtue of the Owner's exercise of its right to take over or otherwise perform any or all of the Contractor's Work pursuant to this Contract; (ii) punitive damages against Owner on account of Owner's termination of the Contract or any other alleged breach of the Contract by Owner; and (iii) lost bonding capacity as a result of any of the actions of the Owner, the Architect or the Construction Manager taken in connection with the Contractor's Work or this Contract on the Project.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract in the manner provided herein below if the Work is stopped for a period of ninety (90) 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; or

.3 Because the Contractor has appropriately stopped Work pursuant to Section 9.7 of these General Conditions.

§ 14.1.2 Intentionally Omitted.

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon fourteen (14) days' written notice to the Owner, Construction Manager and Architect, terminate the Contract unless such reason is cured prior to the expiration of said notice period, or if such breach by its nature cannot be cured within such notice period, Owner has diligently commenced to cure such breach and in good faith continues to complete such cure, and recover from the

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Owner only payment for Work previously and properly executed prior to the effective date of termination but not yet paid (including reasonable overhead and profit only on such Work previously and properly executed but not yet paid), with the basis for such payment only as provided in the Contract Documents. It is agreed and understood that Owner shall incur no other liability to Contractor by reason of such termination, with it being further agreed and understood that the Owner shall not be responsible for or required to pay Contractor for any other costs or damages, including, without limitation, costs or damages for loss of anticipated overhead and/or profit on Work not performed on account of any termination described in this Section 14.1 and its subsections.

(Paragraph deleted)

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 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 disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
- .4 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all of the requirements of the Contract Documents;
- .5 fails to keep the Project free from strikes, work stoppages, slowdowns, lockouts, or other disruptive activity;
- .6 is adjudged a bankrupt or insolvent, or makes a general assignment for the benefit of Contractor's creditors, a trustee or receiver is appointed for Contractor or for any of its property, or files a petition to take advantage of any debtor's act or to reorganize under bankruptcy or similar laws;
- .7 refuses or fails to correct deficient Work performed by it;
- .8 disregards the instructions of the Construction Manager, Architect or Owner (when such instructions are based on the requirements of the Contract Documents); or
- .9 otherwise does not fully comply with the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, 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, three (3) 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 Take possession of materials stored off site by the Contractor;
- .3 Accept assignment of subcontracts pursuant to Section 5.4; and
- .4 Finish the Work by whatever reasonable method the Owner may deem expedient.

The notice provision in this 14.2.2 is for informational purposes only and it is expressly agreed that Contractor shall have no right to cure whatsoever.

§ 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, subject to Section 14.2.4 below and all other relevant provisions of the Contract.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's and other consultants' services and expenses made necessary thereby, and including Owner's attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages including Owner's attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder) exceed the unpaid balance, the Contractor shall pay the difference to the Owner. Contractor's obligation for payment hereunder shall survive termination of the Contract.

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§ 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. The Contractor shall continue to prosecute that portion of its Work that has not been suspended, delayed, or interrupted, and shall properly protect and secure the portion of its Work so suspended, delayed or interrupted.

§ 14.3.2 The Contract Time shall be adjusted for increases in the time caused by suspension, delay, or interruption under Section 14.3.1, it being expressly agreed that the Owner shall incur no liability to Contractor by reason of such suspension, delay, or interruption except that Contractor may request an extension of the Contract Time to complete its Work pursuant and subject to all applicable terms of this Contract. Notwithstanding the preceding, no adjustment to the Contract Time 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;

.2 that an equitable adjustment is made or denied under another provision of this Contract; or

.3 Contractor waives its right to an adjustment by operation of any other provision of the Contract Documents.

§ 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. Termination shall be effective immediately upon delivery of Owner's written notice to Contractor unless specified otherwise by Owner in writing in such notice.

§ 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 or for subcontracts for which Owner accepts assignment as provided in the Contract Documents as stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 If the Contract is terminated for Owner's convenience, the Owner shall not be liable to the Contractor by reason of such termination except that the Contractor shall be entitled to payment for the Work it has previously and properly executed prior to the effective date of termination but not yet been paid (including reasonable overhead and profit only on such Work previously and properly executed but not yet been paid) with the basis for such payment only as provided in the Contract Documents. It is agreed and understood that Owner shall incur no other liability to Contractor by reason of such termination for convenience, with it being further agreed and understood that the Owner shall not be responsible for or required to pay Contractor for any other costs or damages, including, without limitation, costs or damages for loss of anticipated overhead and/or profit on Work not performed on account of any termination described in this Section 14.4 and its subsections.

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 or recover any damages, including, without limitation, Liquidated Delay Damages, in accordance with the Contract Documents.

§ 15.1.2 Time Limits and Other Requirements on Contractor's Claims and Notices of Claims and Causes of Action

The Contractor shall commence all Claims and causes of action, including, without limitation, that it shall comply with all notice requirements and all applicable time periods for the delivery or giving of all notices and commencement of all Claims and causes of action, as specified by and in strict accordance with both all requirements in the Contract Documents and applicable law, whether such Claims are in contract, tort, or otherwise. The Contractor expressly waives all Claims and causes of action that are not in full compliance with and/or not commenced in accordance with this section. Notwithstanding anything herein or elsewhere in the Contract Documents to the contrary, Contractor shall strictly comply with New York State Education Law §3813.

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§ 15.1.3 Contractor's Initial Notice of Claims

Notwithstanding anything to the contrary elsewhere in the Contract Documents, it shall be an express condition precedent to Contractor's ability to pursue any Claims (other than Claims that are solely for an extension of the Contract Time, which are governed by §8.3.2 (and its subsections) of this A232-2019, as modified) that each Claim by the Contractor must be initiated by delivery of written notice to the Owner, with a copy sent to the Construction Manager and Architect, in strict compliance with the requirements of this Section 5.1.3 within ten (10) days after occurrence of the event(s) giving rise to such Claim or within ten (10) days after the Contractor first should have recognized the condition(s) (occurrence of the event(s)) giving rise to the Claim, whichever is later. So that the Owner can properly investigate the Claim and mitigate the effects thereof, TIME IS EXPRESSLY OF THE ESSENCE WITH RESPECT TO CONTRACTOR'S GIVING OF THIS INITIAL NOTICE OF CLAIM TO OWNER WITH THE INFORMATION AS PROVIDED HEREIN AS AN EXPRESS CONDITION PRECEDENT TO ITS ABILITY TO ASSERT OR OTHERWISE PURSUE ANY CLAIM. The initial notice of Claim shall set forth: (1) the reasons for which the Contractor believes additional compensation (increase in Contract Sum) will or may be due and if the Contract Time should be extended; (2) the nature of the costs involved; (3) the Contractor's plan for mitigating such costs; and (4) if ascertainable, the amount of the potential Claim. For any Claim initiated after the time limit set forth in this Section 15.1.3 or otherwise not in compliance with the information required by this Section 15.1.3, Contractor shall be deemed to have expressly waived any such Claim and shall forfeit any rights that it may have pursuant to this Contract or in law or equity to ever assert or otherwise pursue such Claim. The requirements of this Section are without limitation and in addition to Contractor's additional express obligation to strictly comply with New York State Education Law §3813 and any other applicable law with regard to any Contractor Claims, potential claims, right to claim, or causes of action.

(Paragraphs deleted)

§ 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. It is understood that a violation of this provision by Contractor shall cause irreparable harm to the Owner.

(Paragraph deleted)

§ 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 and required by Article 8 (including §8.3.2 and its subsections) of these General Conditions (A232-2019, as modified) shall be given.

(Paragraph deleted)

§ 15.1.7

(Paragraphs deleted)

Limited Waiver of Claims for Consequential Damages. The Owner and Contractor agree to waive consequential damages that may arise out of or relate to Claims by either of them against the other relating to this Contract to the limited extent provided herein. On behalf of the Owner, this waiver is expressly limited to include only the Owner's loss of income, profit or financing, loss of business, loss of reputation, or insolvency, and shall include no other damages however defined or characterized. Notwithstanding the preceding or anything in this Section 15.1.7 to the contrary, as to the Owner, the limited waiver provided herein shall not apply to and expressly excludes, regardless of type, kind, or characterization: (i) any damages or losses that may be recovered from any insurance maintained by Contractor or any of its Subcontractors; (ii) without limitation to the preceding, any damages or losses arising out of or relating to any claims, including claims by third parties, arising out of or relating to property damage, bodily injury or death; (iii) building management costs; (iv) temporary storage and dislocation costs; and (v) costs related to the disruption to or relocation of Owner's personnel, academic and other departments, including equipment and

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machinery, affected in the event of the Owner's inability to occupy all or part of the property of the Project; all of which shall remain recoverable by all other terms of the Contract and expressly reserved notwithstanding this Section 15.1.7. On behalf of Contractor, this waiver includes, but is not limited to, principal office expenses including the compensation of personnel stationed there, loss of business, loss of financing, loss of profits both related and not related to this Contract and/or Project, loss of bonding capacity, loss of reputation, and/or insolvency. The limited waivers provided herein shall also apply to consequential damages arising out of or related to the termination of this Contract pursuant to the provisions of Article 14 and shall survive such termination. Nothing in this Section 15.1.7 shall be deemed to preclude or supplant the assessment of Liquidated Delay Damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 The Construction Manager, Architect and/or the Owner may, but are not obligated to, notify the Surety, of the nature and/or estimated amount of any Claim that the Owner or others may have against Contractor. If such a Claim relates to a possibility of Contractor's default/termination, the Construction Manager, Architect and/or Owner may, but are not obligated to, notify the Surety and request the Surety's assistance in resolving the controversy.

(Paragraphs deleted)
§ 15.3 Litigation. See Agreement (A132 – 2019 as modified), Article 6.

(Paragraphs deleted)

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Additions and Deletions Report for
AIA® Document A232® – 2019

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.

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PAGE 1

2022 Bond Project – Phase 1
South Orangetown Central School District
160 Van Wyck Road
Blauvelt, NY 10913

William O. Schaefer Elementary: 50-03-01-06-0-012-019
Cottage Lane Elementary: 50-03-01-06-0-010-022
Tappan Zee High School: 50-03-01-06-0-006-032
William O. Schaefer Sound & Lockdown: 50-03-01-06-0-012-020
Cottage Lane Sound & Lockdown: 50-03-01-06-0-010-023
Cottage Lane Library Sound & Lockdown: 50-03-01-06-8-023-002
WOS Outdoor Classroom: 50-03-01-06-7-053-001
CLE Outdoor Classroom: 50-03-01-06-7-054-001
SOMS Outdoor Classroom: 50-03-01-06-7-056-001
TZHS Outdoor Classroom: 50-03-01-06-7-055-001

~~(Name, legal status, and address)~~
The Palombo Group Inc.22 Noxon St.
Poughkeepsie, NY 12601

...

~~*(Name, legal status, and address)*~~

SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT
160 Van Wyck Road
Blauvelt, NY 10913

...

~~(Name, legal status, and address)~~CPL Architects, Engineers, Landscape Architect and Surveyor, D.P.C. d/b/a CPL
50 Front Street
Suite 202
Newburgh, NY 12550

The purpose of the "redline" revisions in this document are to amend, supplement and/or void portions of the AIA standard form document. Strikethrough shall indicate deletion and severing of language from the AIA standard form document, and underline shall indicate addition to the AIA standard form document. The final Contract, which will be prepared from this "redline" form, may finalize the document to effect such revisions without showing "redline".

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11 INSURANCE AND BONDS – SEE EXHIBIT A TO A132- 2019 (SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT MODIFIED FORM 2023) – INSURANCE AND BONDS

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§ 1.1.1 The ~~Contract Documents.~~ "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~~ "Modification" is (1) a written amendment to the Contract signed by both ~~parties,~~ 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.~~ "Contract". The Contract Documents form the ~~Contract for Construction.~~ "Contract" (sometimes referred to as 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.~~ Modification in a written instrument signed by Owner, or in the case of a written order for a minor change in the Work by the Architect. 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 the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance by Contractor and enforcement of obligations against Contractor under the Contract intended to facilitate performance of their duties.

§ 1.1.3 The ~~Work.~~ "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.~~ "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 other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 ~~Contractors.~~ "Contractors". Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager. Contractors may be referred to in other Contract Documents as "Multiple Prime Contractors" or "Prime Contractors".

§ 1.1.5.1 With regard to other Contractors on the Project, SEE SPECIFICATIONS – MULTIPLE CONTRACT SUMMARY – SECTION 011200.

§ 1.1.6 ~~Separate Contractors.~~ "Separate Contractors". Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 The ~~Drawings.~~ "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.

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§ 1.1.8 The ~~Specifications.~~ "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.

§ 1.1.8.1 The Specifications may describe (or the Drawings may show) the general placement required of materials or equipment, but the actual required placement may vary depending on the specific material or equipment used by the Contractor or the existing field conditions. The Contractor shall bear all direct and indirect costs associated with such variations.

§ 1.1.8.2 Some Specifications may be written in a condensed outline form and omitted words shall be included by reference. If the Specifications identify a task, it shall mean the "Contractor shall furnish, install and complete" the identified task unless otherwise stated.

§ 1.1.8.3 Reference to standard specifications, manuals or codes shall mean reference to the latest standard specification, manual or code in effect at the time of the execution of the Contract, unless otherwise expressly stated. When reference is made to a manufacturer, trade association, reference standard or similar source (such as ASTM, ASA, AISC, ACI, etc.) the standards or requirements of such entity shall be incorporated into the Specifications and have the force and effect as though they were set forth fully and expressly therein. Upon entering into the Contract, the Contactor acknowledges its familiarity with those references, codes, etc. The date of the referenced standard shall be the latest edition in effect at the time of the execution of the Contract unless otherwise expressly stated.

§ 1.1.9 ~~Instruments of Service.~~ "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.

§ 1.1.10 ~~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.~~ "Project Manual". The Project Manual is the volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 1.1.11 The expression "reasonably inferable" and similar terms in the Contract Documents as applied to Contractor shall be interpreted to mean reasonably inferable by a contractor with experience on projects of similar size and scope and other attributes of this Project exercising reasonable care, skill, and diligence.

§ 1.1.12 Nothing in the Contract Documents shall relieve Contractor from its requirement to comply with all applicable statutory requirements and other governmental or qausi-governmental codes, rules and regulations, including, without limitation, those contained in New York State Education Law §3813.

§ 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. Items not expressly included in the Contract Documents, but which are reasonably inferable therefrom as being necessary to produce the indented results shall be deemed included in the Work. 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.~~ the intended results as provided herein. Contractor acknowledges and agrees that the Contract Documents are adequate and sufficient to provide for the completion of the Work, and include all Work, whether or not shown or described, which may be reasonably inferred to be required or useful for the completion of the Work in accordance with all applicable federal, state, and local statutes, laws, codes, rules, regulations, requirements, and lawful orders of public authorities in effect during the term of the Contract and applicable to the Work. Without limitation, the Work includes all labor, materials, equipment and services necessary to satisfy all governmental conditions including but not limited to obtaining permits. In the event that there is a conflict, discrepancy, ambiguity, and/or unclear circumstances between or among any terms, conditions, or requirements of the Contract Documents, those that provide for the most inclusive, highest quality, highest quantity, highest cost, and/or most stringent requirements and/or obligations on the part of the Contractor shall

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apply and be provided or performed by Contractor at no extra compensation to Contractor (no increase in the Contract Sum) and/or no extension of the Contract Time.

§ 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 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.~~Whenever any additional materials and/or workmanship not shown or specified in the Contract Documents are required to complete the Work of the Contract Documents in accordance with the intent thereof, the Contractor shall provide these materials and workmanship at no additional cost to the Owner.

§ 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. It shall be Contractor's responsibility to settle definitely with each Subcontractor the portions of the Work that each will be required to perform, and the Owner, Construction Manager, and Architect assume no responsibility whatsoever for any jurisdiction claimed by any of the Contractor's Subcontractors involved in the Work. The Contractor shall, subject to the other terms of the Contract Documents, provide each item listed, of quality noted and subject to qualifications noted, and shall perform operations prescribed according to the conditions stated, furnishing therefore all necessary labor, materials, equipment, and incidentals required to complete the Work. Contractor represents that the Subcontractors, manufacturers and suppliers engaged or to be engaged by it are and will be familiar with the requirements for performance by them of their obligations.
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§ 1.4.1 The Contractor represents that prior to execution of the Contract, it has consulted with an attorney, that the attorney has reviewed all of the Contract Documents and that the Contractor has signed the Contract Documents only after such consultation with its attorney. Accordingly, the maxim that this Contract shall be construed against the Party who drafted it shall not apply to the interpretation of this Contract or any of the Contract Documents.

§ 1.4.2 Severability. The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. In the event that any term or provision, or part thereof, of this Contract or any of the Contract Documents is held to be illegal, invalid or unenforceable under applicable law by a court of competent jurisdiction pursuant to the terms of this Contract, such term or provision, or part thereof, shall be deemed ineffective to the extent of such illegality, invalidity, or unenforceability only and severed from the Contract Documents and the remaining term(s) and provision(s) shall remain unaffected thereby. 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.

§ 1.4.3 Captions. Titles or captions or headings of Articles, Sections, and Exhibits contained in the Contract Documents are inserted only as a matter of convenience and for reference, and in no way define, limit, extend or describe the scope of the Contract Documents or the intent of any provision hereof.

§ 1.5.1 ~~The~~ With regard to the Contractor, and any Subcontractors, sub-subcontractors, and suppliers, and without limitation and subject to all rights granted to Owner in its contract with the Architect regarding the Instruments of Service, including the Drawings and Specifications, 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~~ In all instances, 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.~~ of the reserved rights of the Owner, and/or the Architect or Architect's consultants as may be provided in the Owner's contract with the Architect.

§ 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,~~ them 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~~

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without the specific written consent of the Owner, ~~Architect, and the Architect's consultants.~~and the Architect, and the Architect's consultants as relevant.

§ 1.5.3 Notwithstanding the preceding Sections 1.5.1 and 1.5.2, nothing contained this this Section 1.5 or elsewhere in the Contract Documents shall modify the rights granted to Owner by Architect in relation to the Instruments of Service as set forth in the separate agreement between Owner and Architect.

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§ 1.6.1 ~~Except~~ Notwithstanding anything to the contrary elsewhere in the Contract Documents, 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.~~all notices to be given pursuant to any provision of this Contract shall be in writing and shall be deemed to have been duly given or delivered: (i) if delivered by hand during business hours to the addresses indicated below against a signed receipt, upon delivery; (ii) if deposited with a nationally recognized and reputable overnight delivery service for overnight delivery to the addresses indicated below, upon one (1) business day following deposit with such overnight delivery service (with receipt of such deposit); (iii) if by certified mail, return receipt requested, postage prepaid addressed to the addresses below, upon four (4) days after it is posted with the United States Postal Service; or (iv) if delivered by email to the email address of the Party to be notified as indicated herein (except where such email notice is disallowed by Section 1.6.2), upon the sending of such email if during business hours, and if after business hours on the next business day. All such notices shall be delivered to:

(i) if to Owner, addressed to:

The OWNER'S REPRESENTATIVE at the address (or email address where allowed) set forth in SECTION 8.2 of the AGREEMENT (A132-2019, as modified).

with a copy to Construction Manager:

THE PALOMBO GROUP INC.
22 Noxon St.
Poughkeepsie, NY 12601
Attn: Luis Rodriguez, Project Executive
Email: lrodriguez@thepalombogroup.com

with a copy to Architect (if indicated by a particular, relevant section in the Contract Documents regarding the notice):

CPL
50 Front Street, Suite 202
Newburgh, NY 12550
Attn: Lauren Tarsio
Email: ltarsio@CPLteam.com

and

(ii) if to Contractor, addressed to:

The CONTRACTOR'S REPRESENTATIVE at the address (or email address) set forth in SECTION 8.3 of the AGREEMENT (A132-2019, as modified).

If notice is tendered under the provisions of this Section 1.6.1 and is refused by the intended recipient of the notice, the notice shall nonetheless be considered to have been given and shall be effective as set forth above. Written notice from the Contractor to the Owner shall further be deemed only given or delivered on the latest date upon which all of Owner, Construction Manager, and Architect (where Architect is required to receive notice) have been provided notice as required herein. If the Construction Manager or Architect are replaced or a notice address or representative changes, Owner or Construction Manager or Architect shall provide notice to Contractor of such change.

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§ 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.~~
Notwithstanding anything in Section 1.6.1 or elsewhere in the Contract to the contrary, THE FOLLOWING WRITTEN NOTICES FROM CONTRACTOR TO OWNER SHALL ONLY BE PROVIDED BY EITHER (a) overnight courier, or (b) US certified mail, return receipt requested - each pursuant to the requirements in Section 1.6.1: (i) any notice of Claims pursuant to Article 15 herein, (ii) any notice with respect to termination under Article 14 herein, (iii) any notice regarding Hazardous Materials pursuant to Article 10 herein, (iv) any notice under Section 9.7 herein, (v) any notice under Section 8.6 (and its subparts) herein, (vi) any notice under Section 8.3.2 (and its subparts) herein, and (vii) any notice under Section 3.7.4 herein. Without limitation to the preceding, notice by email or hand delivery is expressly not allowed for the types of notices described herein this Section 1.6.2, and, if so provided shall be deemed null and void and not provided even if actually received by the Owner.

~~**§ 1.7 Digital Data Use and Transmission**~~

~~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.~~

§ 1.6.3 Under no circumstances shall any reports, minutes, logs, schedule updates, or other information or documents required to be submitted by the Contractor to the Construction Manager and/or Architect be deemed a written notice to Owner in any regard.

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§ 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~~ South Orangetown Central School District is the Owner and the Board of Education of the South Orangetown Central School District shall be the only entity with authority to bind the Owner or provide approval or authorization on behalf of the Owner as required by law and/or the policies and procedures of the South Orangetown Central School District unless Contractor is notified otherwise in writing signed by the Owner. Except as otherwise provided herein or in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative. Notwithstanding anything in this Section 2.1.1 or elsewhere in the Contract Documents to the contrary, with respect to any Claim by Contractor, or any Claim or other request or demand for a Change Order, or any Claim or other request or demand for an extension of the Contract Time or upward adjustment of the Contract Sum, any rejection of such Claim or other request or demand, either in whole or in part, made by Construction Manager or the Architect to Contractor shall be deemed to have been made by the Owner unless such rejection expressly sets forth in writing to the contrary.

~~§ 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 – Intentionally Omitted.

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~~§ 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.~~

§ 2.3.1 ~~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~~ With the exception of the building permit, all permits and fees, approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing ~~facilities. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.~~ facilities are the responsibility of the Contractor under the Contract Documents. Contractor's Contract Sum shall include all fees and other costs for securing and maintaining (by Contractor and its Subcontractors) for the duration of the Project in relation to the Work: all permits, PE licenses, connection fees, inspections, etc., applicable to, or customarily secured for the Work. This provision includes, without limitation, any permits to be issued in the name of the Contractor as required for the Work. The Contractor shall furnish Construction Manager and Architect or Owner with original copies of all permits prior to the commencement of Work and shall prominently display a copy of all permits at a location agreed upon with the Construction Manager or Owner. See also Section 3.7 herein below.

...

§ 2.3.4 It is expressly agreed and understood that at any time during the progress of the Project, the Architect and/or Construction Manager may be terminated and that such termination shall not for any reason whatsoever be deemed a breach of this Contract. If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect ~~to whom the Contractor has no reasonable objection and~~ within a reasonable time whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 2.3.5 ~~The~~ If reasonably requested by the Contractor in writing, 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~~ Notwithstanding the

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provision of this information, if provided, the Contractor shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.6 ~~The~~ Following receipt of a written request from the Contractor, 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 which is necessary and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's reasonable written request for such ~~information or services.~~ information.

§ 2.3.7 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor ~~one copy~~ two (2) copies of the Contract Documents for purposes of making ~~reproductions pursuant to Section 1.5.2.~~ reproductions. Any and all additional copies will be furnished to Contractor at its own expense (including the cost of reproducing, postage and handling).

~~§ 2.3.8 The Owner shall forward all communications to the Contractor through the Construction Manager. Other communication shall be made as set forth in Section 4.2.6.~~

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, **or fails or refuses to provide a sufficient amount of properly supervised and capable labor, materials, or equipment so as to permit the Owner to reasonably infer that the Contractor will not be able to complete the Work within the Contract Time, or fails to remove, bond or discharge (within the time required by and otherwise in conformance with Section 9.6.8 herein below) any lien filed upon or against Owner's property or against the Project funds by anyone claiming by, through, or under Contractor, or disregards the instructions of Construction Manager, Architect or Owner when such instructions are based upon the requirements of 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;~~ eliminated to the Owner's satisfaction in its discretion; 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 its benefit or the benefit of the Contractor or any other person or ~~entity, except to the extent required by Section 6.1.3.~~ entity.

If the Contractor defaults or neglects to carry out the Work in accordance with or is otherwise in default of any term of the Contract Documents and fails within a ~~ten-day~~ three (3) day period after ~~receipt~~ delivery of notice from the Owner to commence and continue correction of such default or neglect with diligence and ~~promptness, the Owner may,~~ promptness (to the satisfaction of Owner in its discretion), the Owner may at the end of such three (3) day period with no further notice required, 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 review by the Construction Manager and prior approval of the Architect, and the Construction Manager or Architect may,~~ Contractor shall be liable to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Construction Manager's and Architect's and their respective consultants' additional services, and also including, without limitation, the Owner's reasonable attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), and all other reasonable expenses made necessary by or arising out of or relating to such default, neglect, or failure. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the costs and damages reimbursable to Owner as described hereinabove. Likewise, Architect may also, 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 Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure.~~ Owner the costs and damages reimbursable to Owner as described hereinabove. 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~~ make a Claim pursuant and subject to to Article 15. The right of the Owner to stop and carry out the Work (or any portions thereof) pursuant to this Section 2.5 shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

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§ 2.6 Owner's Right to Audit. Contractor shall keep full and accurate records of all costs incurred and items billed in connection with the performance of the Work, which records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until seven (7) years after final payment. In addition, the Contractor shall make it a condition of all subcontracts relating to the Work that any and all Subcontractors will keep accurate records of costs incurred and items billed in connection with their Work and that such records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until seven (7) years after its completion.

§ 2.7 Owner's rights stated in this Article 2 are cumulative and in addition to and are without limitation to any rights of the Owner granted elsewhere in the Contract Documents, or at law or in equity. Further, it is expressly understood that notwithstanding any of the rights and authority granted the Owner in this Article 2 or elsewhere in the Contract Documents, in no event shall the Owner, Construction Manager or Architect have control over, charge of, or any responsibility for construction means, methods, techniques, sequences, procedures, or for safety precautions and programs in connection with the Work, all of which are the right, obligation, and responsibility of Contractor.
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§ 3.2.1 ~~Execution~~ Submission of its bid to the Owner and subsequent execution of the Contract by the Contractor is a representation that the Contractor has ~~visited the site, become generally familiar with~~ carefully examined the Contract Documents and has visited and has performed a detailed investigation of the site, become thoroughly familiar with the nature and local conditions under which the Work is to be ~~performed, and correlated personal observations~~ performed (including but not limited to: (i) the condition, layout, and nature of the Project site and surrounding areas, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, and (iv) availability and cost of materials, tools, and equipment) and all matters that may in any way affect the Work or its performance, and correlated personal observations and investigations with requirements of the Contract Documents. Submission of its bid to the Owner and subsequent execution of the Contract by the Contractor is a further representation that the Contractor has carefully examined the Contract Documents (with such review in Contractor's capacity as a contractor and not a design professional unless otherwise specifically provided in the Contract Documents) and that any errors, omissions, ambiguities, discrepancies or conflicts found in the Contract Documents have been brought to the attention of the Architect for clarification prior to the Contractor's submission of its bid. The Contractor further represents that as a result of its examinations and investigations, the Contractor thoroughly understands the Contract Documents and their intent and purpose and is familiar with all federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities as they apply to the Work, and that the Contractor will abide by same. The Owner assumes no responsibility or liability for the physical condition or safety of the Project site or any other improvements located on the Project site. As required by this Contract, the Contractor shall be responsible for providing a safe place for the performance of the Work. Claims for extension of the Contract Time or additional compensation (i.e., increase in the Contract Sum) as a result of the Contractor's failure to follow the foregoing procedures and to familiarize itself with all local conditions and the Contract Documents shall not be allowed.
§ 3.2.1.1 The Contractor is deemed to be a qualified expert in the systems and construction requirements of the Work of its Contract. The Contractor hereby specifically acknowledges and declares that the Contract Documents are full and complete, are sufficient to have enabled it to determine the cost of the Work and that the Drawings, the Specifications and the Addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with all federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities as they apply to the Work, and otherwise to fulfill all of its obligations under the Contract Documents. In addition, if the Contractor performs any construction activity while it knows or should have known that any of the Contract Documents contains an error, inconsistency or omission, the Contractor shall be responsible for such performance and shall bear the costs for correction thereof.

§ 3.2.1.2 The Contractor shall rely on its own knowledge and its review and interpretation of the Contract Documents and data provided in entering into the Contract and not the representations of the Owner or other persons. The Contractor acknowledges that quantities provided in the Contract Documents are estimates only and Contractor shall not seek additional compensation or adjustment in price based on a variation in actual quantities.

§ 3.2.1.3 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 increase in the Contract Sum or extension of the Contract Time for discrepancies between the Work as shown in the Contract Documents and existing conditions.

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§ 3.2.1.4 The locations, depths, and data as to underground conditions have been obtained from records, surface indications and data furnished by others. 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 verify all existing conditions prior to commencing the Work. The Contractor shall make no Claim with respect to the accuracy or completeness of such information if the conditions found after commencement of the Work are different from those as indicated.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before ordering any materials and 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~~ any information furnished by the ~~Owner pursuant to Section 2.3.5,~~ Owner, 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.~~ it and otherwise verify all field conditions. Contractor shall be responsible for the correctness of all measurements. Contractor shall carefully compare such field measurements and conditions and other information known or provided or available to the Contractor with the Contract Documents before commencing activities. 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~~ errors or omissions in the Contract Documents; however, the Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered ~~by or made known to~~ by, made known to, or that should have been discovered by the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and Architect may ~~require.~~ require before commencing activities. 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. Any errors or defective Work due to the Contractor's failure to so verify all conditions and all grades, elevations, locations, and dimensions shall be promptly rectified by the Contractor without any additional cost to the Owner.

§ 3.2.2.1 The accuracy of grades, elevations, dimensions, or locations of existing conditions is not guaranteed by the Construction Manager, Architect or Owner, and the Contractor is responsible for verifying same. No increase in the Contract Sum or extension of the Contract Time will be allowed on account of differences between actual measurements and the dimensions indicated on any Drawings or elsewhere in any Contract Documents nor for Contractor's failure to coordinate Work with actual field measurements. Any difference that may be found shall be submitted to the Construction Manager and Architect for resolution before proceeding with the Work. The Contractor shall assume full responsibility for accuracy of measurements obtained at the site.

§ 3.2.2.2 If a minor change in the Work is found necessary due to actual field conditions, the Contractor shall submit through the Construction Manager detailed drawings of such departure for the approval of the Architect before making the change.

§ 3.2.2.3 In case of omissions or discrepancies between the Contract Documents, the Contractor shall secure instructions from the Architect through the Construction Manager before proceeding with the Work affected by omissions or discrepancies. The Contractor shall assume full responsibility and cost for proceeding with such Work without approval.

§ 3.2.2.4 During the course of Work, should any errors, omissions, ambiguities, discrepancies or conflicts be found on the Drawings or in the Specifications to which the Contractor has failed to call attention before submitting its bid, the Architect through the Construction Manager shall interpret the intent of the Drawings and Specifications and the Contractor hereby agrees to abide by the Architect's interpretation and agrees to carry out the Work in accordance with the decisions of the Architect with no increase in the Contract Sum and with no extension of the Contract Time.

§ 3.2.2.5 Salvageable Materials. All existing materials, equipment, or other items scheduled for demolition or permanent removal are the property of the Owner. If requested, Contractors will remove and store any such items to a location designated by the Owner.

§ 3.2.3 The Contractor ~~is not required to ascertain that the Contract Documents are in accordance~~ in its review of the Contract Documents as required herein shall promptly report to the Construction Manager and Architect any nonconformity of the Contract Documents with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public ~~authorities, but the Contractor shall promptly report to the Construction Manager and Architect~~

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~~any nonconformity~~ authorities discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may ~~require.~~require; it being understood 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.

§ 3.2.4 If the Contractor believes that ~~additional cost or time is involved~~ it is entitled under the Contract Documents to either or both of an increase in the Contract Sum or extension of the Contract Time 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 and its subsections 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 and its subsections or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to ~~section~~ 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.~~

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§ 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 written notice to the Owner, the Construction Manager, and the 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. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.1.1 All loss, damage, liability, or cost of correcting defective Work arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor notwithstanding that such construction means, methods, techniques, sequences or procedures may be referred to, indicated or implied by the Contract Documents; it being understood that in no event shall the Owner, Construction Manager or Architect have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work.

...

§ 3.3.4 The Contractor shall inspect all materials as delivered to the site and shall reject any materials that will not conform to the Contract Documents when properly installed.

§ 3.3.5 The Contractor shall be responsible for and coordinate any and all inspections required by any governmental or other authorities having jurisdiction over the Work. Failure to obtain any permits, licenses or other approvals because of the failure of the Contractor to conform to this requirement shall not extend the Contract Time, and the Contractor shall not be entitled to any increase in the Contract Sum therefore. In addition, any additional costs and/or expenses of any nature incurred by the Owner as a result of the Contractor's failure to conform to this requirement shall constitute a charge against the Contractor's Contract payable to Owner.

§ 3.3.6 Contractor shall perform all Work in accordance with all requirements of all federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities as they apply to the Work.

§ 3.3.7 During periods of active construction, Contactor shall consult daily and cooperate with the Construction Manager, Architect and Owner. On a continuous and daily basis, Contractor shall keep the Construction Manager, Architect and Owner notified of when Work will be starting, restarting, suspended and temporarily or permanently

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concluding.

§ 3.3.8 Contractor shall attend all meetings, at a minimum on a weekly basis, as required by the Owner and/or the Construction Manager or Architect to be held at a location as may be determined by Construction Manager or Owner. These meetings will be held to arrange for the satisfactory performance of the Work of this Contract and/or the coordination of all Contractors on the Project so as not to impede the progress of the Project. Failure of Contractor to attend said weekly (at a minimum) meetings shall be deemed a material breach of this Contract. Contractor shall be responsible for all delays and/or expenses incurred for failure to attend meetings and any coordination difficulty resulting therefrom.

§ 3.3.9 Contractor shall produce, maintain, and provide copies of its daily construction logs and reports to the Construction Manager. Unless otherwise specified elsewhere in the Contract Documents, these reports shall be submitted no later than 10:00 am the following workday. The daily reports shall be for Construction Manager's information and provide detailed information as required by the Construction Manager concerning the Contractor's activities and operations only. If any type of 'daily construction' form is provided by Construction Manager for purposes of compliance with this section, such form shall be used by Contractor. Notwithstanding anything to the contrary elsewhere in the Contract Documents, under no circumstances shall any daily construction reports be deemed a written notice by Contractor to Owner for any written notices required to be given to Owner under this Contract, including, without limitation, the written notices identified in Section 1.6.2 of this A232-2019, as modified.

§ 3.3.10 Unless otherwise requested by Construction Manager, or specified elsewhere in the Contract Documents, Contractor shall submit to Construction Manager two-week look ahead schedules identifying the anticipated activity and material needs for all of the Work scheduled to be performed by the Contractor and its Subcontractors for the identified time period. The Contractor shall keep this schedule current and provide reports to the Construction Manager at least every two weeks concerning the actual performance and activity compared to the two-week look ahead. If a form is provided by Construction Manager for the purpose of compliance with this section, such form shall be used by Contractor. Notwithstanding anything to the contrary elsewhere in the Contract Documents, under no circumstances shall any schedules, or updated schedules, or any documentation or information relating to same be deemed a written notice by Contractor to Owner for any written notices required to be given to Owner under this Contract, including, without limitation, the written notices identified in Section 1.6.2 of this A232-2019, as modified. See also, without limitation, Section 3.10 (and its subsections) and Article 8 of this A232-2019 (as modified).

§ 3.3.11 Notwithstanding anything to the contrary elsewhere in the Contract Documents, in addition to the Owner's right to take Work away (set forth in Section 2.5), if Contractor fails to keep the site clean, the Construction Manager or Owner may, at Owner's option and without notice to Contractor, have this Work performed and back charged. For purposes of this section, notwithstanding anything contained to the contrary in the Contract Documents, verbal notice to field personnel is deemed notice to the Contractor. Owner's rights pursuant to this paragraph shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

§ 3.3.12 Contractor shall allow sufficient time to inspect and accept the Work of other Contractors on the Project and Owner's Separate Contractors. Should any discrepancies be discovered, the Contractor shall provide written notice to Construction Manager sufficiently in advance so that Construction Manager and Architect may have sufficient time to review same and corrective action can be taken (by all necessary parties) without affecting the progress of any other Contractors or Separate Contractors or the Work.

§ 3.3.13 Unless otherwise requested by Construction Manager or specified elsewhere in the Contract Documents, within one (1) week after issuance of a Notice to Proceed or commencement of Work, whichever is earlier, Contractor shall provide two (2) copies of a video-taped recording of all existing conditions to the Construction Manager. This video shall provide a record of all relevant existing buildings, grounds, exterior conditions and interior conditions which many be affected by the Work. Contractor shall schedule a representative of both the Contractor and the Construction Manager to be present at this taping. In the absence of this video record made in strict conformance with the terms of this section, the Contractor shall be estopped from asserting that any damage to existing conditions/property was to any extent pre-existing when Owner or the Construction Manager asserts that such damage was caused by Contractor.

§ 3.3.14 Contractor must exert due care and diligence when working in or near any existing buildings or site work

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which is to remain. The absence of protection around such items shall not excuse the Contractor from its responsibility to provide protection. In addition and without limitation to Contractor's obligations in Section 3.18 (and its subsections) herein below and any other obligations of Contractor elsewhere in the Contract Documents or at law or in equity, any damages to any existing buildings or site work or facilities arising out of or relating to the acts or omissions of the Contractor or any of its Subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them are liable shall be repaired by the Contractor at its sole cost and expense and if Contractor cannot repair the same, it shall bear the cost thereof. The obligations of this section shall survive the final completion of the Work and/or this Contract or the termination of the Contract.

§ 3.3.15 All disconnect and/or tie-in Work involving any utilities that would interfere with the ongoing operations of the Owner shall be completed on an after-hours basis. The performance of this Work shall be projected on the required schedules and the Construction Manager, Architect, and Owner are to be notified at least forty-eight (48) hours in advance of commencing this Work. All overtime and standby personnel necessary to complete these tie-ins shall be the responsibility of the Contractor.

§ 3.3.16 In the event that Owner makes arrangements to open a building at the request of Contractor and the Contractor does not appear at the designated time and location, the Contractor shall, notwithstanding anything to the contrary elsewhere in the Contract, including, without limitation, Section 15.1.7, pay the Owner for all costs incurred relating to the opening of said building for Contractor.

§ 3.3.17 Contractor shall, immediately upon request, provide to Owner and Construction Manager, as either of them may request, copies of all correspondence, memoranda and bulletins to and from the Construction Manager, Architect, Subcontractors, suppliers, public agencies and other authorities with jurisdiction over the Work or the Project, and others on the Project, in PDF digital format or such other form as Owner or Construction Manager may request in their discretion.

§ 3.3.18 Contractor agrees that it shall not permit any unauthorized persons or entities to visit or enter upon the Project site absent Construction Manager's or Owner's prior written approval.

§ 3.3.19 Contractor shall arrange for protection to secure the Work site against physical damage, theft, and vandalism and arrange for protection of adjoining property from damage.

§ 3.3.20 If relevant to the Work, Contractor shall develop methods of dust and fume control so as to comply with applicable legal requirements. Compliance with New York Labor Law §222-a (regarding prevention of dust hazards in public work) is strictly required if applicable to the Work of this Contract, and noncompliance shall, among other things, be a material breach of this Contract, for which Owner may terminate for cause, without any ability for Contractor to cure notwithstanding anything elsewhere in the Contract to the contrary.

§ 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. The Contractor shall check all materials and labor entering into the Work site and shall keep full detailed accounts thereof.

§ 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, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.~~
Equivalents and Substitutions.

§ 3.4.2.1 The materials, products and equipment described in the Contract Documents establish the standard of required quality, function, dimension and appearance expected.

§ 3.4.2.2 Equivalents and Substitutions shall only be permitted as provided in the Contract Documents – SPECIFICATIONS – SUBSTITUTION PROCEDURES (SECTION 012500) and EQUIVALENTS (SECTION 012519). It is expressly agreed that without limitation to all other requirements of the preceding Specification sections and notwithstanding anything to the contrary in the Contract Documents, no equivalents may be proposed by Contractor and no equivalents will be considered by Owner after the time set forth in EQUIVALENTS SECTION

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012519 and in no event any later than the time of Contract execution.

§ 3.4.2.3 Notwithstanding the above Section 3.4.2.2 or anything else in the Contract Documents to the contrary:

(i) The Architect, Construction Manager and Owner's decision of approval or disapproval of a proposed equivalent or substitution shall be made in their sole discretion and shall be final.

(ii) Should the Construction Manager, Architect and Owner not approve a proposed substitution, the costs incurred by Owner relating to the review of said substitution shall be deducted from the Contract Sum.

(iii) The Contractor making a substitution shall bear all costs associated with such substitutions including, but not limited to: (a) redesign required for any of the Work; (b) material or quantity changes for any of the Work; (c) delays in any of the Work; and/or (d) requests for information generated due to substitutions.

(iv) The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Architect will not approve as equal to materials specified proposed substitutes which, in its reasonable opinion, would be out of character or quality of design of the Project.

§ 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. The Contractor acknowledges that it is the Contractor's responsibility to hire all personnel for the proper and diligent prosecution of the Work and the Contractor shall maintain labor peace for the duration of the Project. Should any disorderly, incompetent or objectionable person be hired or employed by the Contractor or be let upon or about the premises of the Owner, for any purpose or in any capacity, they shall, upon request of the Construction Manager or Owner, be removed from the Project and not again assigned thereto without written permission of the Construction Manager or Owner. In the event of a labor dispute, the Contractor shall not be entitled to any increase in the Contract Sum or extension of the Contract Time.

§ 3.4.3.1 UNION DISPUTES / LABOR HARMONY

§ 3.4.3.1.1 The Contractor shall employ only labor on the Project or in connection with its Work capable of working harmoniously with all trades, crafts and any other individuals associated with the Work to be performed. There shall be no strikes, picketing, work stoppages, slowdowns or other disruptive activity at the Project for any reason by anyone employed or engaged by the Contractor to perform any portion of its Work. There shall be no lockout at the Project by the Contractor. The Contractor shall be responsible for providing the manpower required to proceed with the Work under any circumstance. Should it become necessary to create a separate entrance for Contractor because of its involvement in a labor dispute, all costs associated with creating that entrance shall be borne by the Contractor. Such costs shall include, but not be limited to, signage, fencing, temporary roads and security personnel as deemed necessary by the Construction Manager for the safety of the occupants of the site.

§ 3.4.3.1.2 If Contractor has engaged the services of workers and/or Subcontractors who are members of trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage or cost to the Owner, and without recourse to the Construction Manager, Architect or the Owner, any conflict between its Contract with the Owner and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the Work of any particular trade.

§ 3.4.3.1.3 In case the progress of the Work to be performed by the Contractor is affected by any delay in furnishing or installing any items or materials or equipment required pursuant to its Contract with the Owner because of a conflict involving any labor agreements or regulations, the Owner may require another material or equipment of equal kind and quality (as determined by the Owner with the assistance of the Architect) be provided pursuant to a Change Order or Construction Change Directive but in no case shall the amount of such change be charged by the Contractor to the Owner as an additional cost to perform the Work pursuant to its Contract.

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§ 3.4.3.1.4 The Contractor shall ensure that its Work continues uninterrupted during the pendency of any labor dispute.

§ 3.4.3.1.5 The Contractor shall be liable to the Owner for all damages suffered by the Owner occurring as a result of any Work stoppages, slowdowns, disputes or strikes.

§ 3.4.4 A sufficient force of competent workmen, foremen, and superintendents shall be employed at all times to permit the Work to be pursued with diligence and in conformance with the Project Schedule until completion.

§ 3.4.5 No materials or supplies for the Work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale or any arrangement by which any interest is retained by the seller. The Contractor warrants that it has good title to all materials and supplies used by it in the Work, or resold to Owner, pursuant to the Contract Documents, free from all liens, Claims/claims or encumbrances.

§ 3.4.6 Contractor shall comply with the Contract requirements and all applicable federal, state and local laws, including, but not limited to provisions of the New York State Labor Law concerning hours of work, prevailing rate of wages (as published by the Bureau of Public Work, State of New York, Department of Labor), minimum wages, working conditions, prevailing wage enforcement, notices to be posted at the Project site, and employment and payroll records. SEE SPECIFICATION SECTION 007343 – WAGE RATE REQUIREMENTS. The Contract Documents elsewhere include reference to the minimum hourly rate of wage which can be paid and the minimum supplement that can be provided in conformance with New York State Labor Law, and all laborers, workingmen or mechanics shall be paid not less than such hourly minimum rate of wage and provided supplements not less than the prevailing supplements.

§ 3.4.6.1 The Contractor shall maintain the original payrolls or transcripts thereof which the Contractor and its Subcontractors are required to maintain pursuant to New York State Labor Law. The Contractor and its Subcontractors shall submit original payroll or transcripts, subscribed and affirmed by it as true, with each and every Application for Payment. The Contractor and Subcontractors shall produce within five (5) days on the Project site and upon a written order of the Construction Manager, Owner, or relevant authority having jurisdiction over the Project or Work, such original payrolls or transcripts thereof, subscribed and affirmed by it as true, and the statements signed by each worker. In addition, the Contractor and its Subcontractors shall furnish to the Construction Manager or Owner upon written demand any other information to satisfy the Construction Manager or Owner that this Section 3.4.6 and its subsections and the New York Labor Law, as to the hours of employment and rates of wages are being fully observed and complied with. The Contractor shall maintain the payrolls or transcripts thereof for at least the longer of: (i) seven (7) years from the date of final completion of the Work of this Contract; or (ii) as required by applicable law.

§ 3.4.6.2 When directed by the Construction Manager or Owner, the Contractor shall provide the Construction Manager with an attendance sheet for each day of which Work is performed on the Project site. Such attendance sheet shall be in a form acceptable to the Construction Manager or Owner and shall provide information for employees of the Contractor and its Subcontractors.

§ 3.4.6.3 Without limiting the generality of Section 3.4.6 above or any other requirements of the Contract Documents or applicable law, Contractor shall comply with all applicable requirements of New York Labor Law §220 et seq., and the contract requirements required by New York Labor Law §220 to be included in this Contract are deemed incorporated herein by reference.

§ 3.4.7 All materials used permanently in the Work shall be new unless otherwise specified. The apparent silence of the Specifications as to any detailed description concerning any Work to be done and materials to be furnished shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the first quality are to be used, and all interpretations of the Specifications shall be made on this basis. All material incorporated in the Project shall be clean and exhibit no appearance of aging, exposure to weather, prior use, handling or damage of any kind.

§ 3.4.8 Unless provided otherwise in the Contract Documents, manufacturer's identification shall be inconspicuous, but where nameplates contain information relative to characteristics or maintenance, they shall be clearly visible and located for easy access.

§ 3.4.9 Equipment intended for permanent installation shall not be operated for temporary purposes without the

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written permission of the Construction Manager and Owner.

§ 3.4.10 Materials shall be delivered in manufacturer's original sealed containers, with complete identification of contents and manufacturer, and kept sealed in original containers until used. Labels shall not be removed until materials have been installed and inspected.

§ 3.4.11 Unless provided otherwise in the Contract Documents, whenever the Contract Documents require delivery by the Contractor of any materials, equipment, or other items, the term delivery shall be deemed to include unloading and storing with proper protection where directed.

§ 3.4.12 Unless provided otherwise in the Contract Documents, where material is specified to be furnished by others or furnished and delivered only, the Contractor installing the material shall be responsible for scheduling the delivery and receiving, unloading, storing, handling, relocating, hoisting, distribution, laying out and installing the material.

§ 3.4.13 Materials shall be applied or installed under proper climatic conditions, not when they may be affected by temperature, moisture, humidity or dust.

§ 3.4.14 No materials incorporated into the Project Work shall contain asbestos. Materials shall be "asbestos free" containing zero percent (0%) asbestos. The Construction Manager and the Owner reserve the right to request certification from the material manufacturer through the Contractor for certification that materials installed contain zero percent (0%) asbestos.

§ 3.4.15 Contractor shall include in its base price the cost of all rigging and equipment required for the performance and installation of its Work.

§ 3.4.16 Consistent with the requirements of New York Labor Law §220-e and all other applicable laws, and without limitation to any other related requirements in the Contract Documents regarding such, Contractor agrees: (a) that in the hiring of employees for the performance of Work under this Contract or any subcontract hereunder, neither Contractor, nor any Subcontractors, nor any person acting on behalf of Contractor or any Subcontractor, 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; (b) neither Contractor, nor any Subcontractor, nor any person on Contractor's or Subcontractor's behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of Work under this Contract on account of race, creed, color, disability, sex or national origin; (c) that, at a minimum, and as consistent with applicable law, there may be deducted from the amount payable to the Contractor by the Owner a penalty of fifty dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract; and (d) that this Contract may be cancelled or terminated by the Owner, and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the Contract.

§ 3.4.17 Consistent with the requirements of New York Labor Law §220-f, Contractor represents that it is not currently participating and it has never participated at any time in an international boycott in violation of the provisions of the United States export administration act of nineteen hundred sixty-nine, as amended, or the export administration act of nineteen hundred seventy-nine, as amended, or the regulations of the United States department of commerce promulgated thereunder.

§ 3.4.18 Contractor agrees that, without limitation, that the requirements of New York Labor Law §220-g are incorporated herein by reference and binding on Contractor, and its Surety on the Payment Bond provided in connection with this Contract, regarding actions by any employees of Contractor or Subcontractor for unpaid wages and supplements, including interest.

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§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, 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 best quality and new. 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.~~ defects. Work, materials, or equipment not conforming to these requirements ~~may~~ shall

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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 Construction ~~Manager or Architect,~~ Manager, Architect, or Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The warranty provided in this Section 3.5 shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

§ 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 be delivered to the Construction Manager prior to final payment and shall commence in accordance with Section 9.8.4. Contractor shall perform all Work in such a manner so as to preserve any and all manufacturers' warranties.

§ 3.5.2.1 The Contractor will exercise its best efforts to service and to enforce for the benefit of Owner all manufacturers' warranties on all materials, equipment and fixtures incorporated into the Work.

§ 3.5.3 The warranties set forth herein shall survive completion, expiration and/or termination of this Contract.

§ 3.5.4 The Contractor will make good at its own cost and expense all defects and all damage caused to the Owner, due to correcting defective Work that is under warranty/guarantee. All corrections to defective Work shall be made at the convenience of the Owner.

§ 3.5.5 Where relevant, the Contractor represents that it is a manufacturer's approved Contractor in connection with the Work and will furnish the manufacturer's warranty to the Owner and Construction Manager.

...

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof 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. **Notwithstanding the preceding,** New York State sales tax is not applicable to any materials and supplies incorporated into and becoming an integral part of the structures, buildings, or real property of the Project under the terms of the Contract, the Owner being exempt therefrom. Such taxes shall not be included in the Contractor's bid or Contract Sum. Upon request, the Owner shall supply to the Contractor an exemption certificate or other appropriate documentation of exemption for such tax required to be provided by the Owner, and Contractor and its Subcontractors and materialmen shall be solely responsible for obtaining and delivering any and all documentation of such tax exemption to all persons, firms, or corporations from whom they purchase supplies, materials, and equipment for the performance of the Work.

...

§ 3.7.1 ~~Unless otherwise provided in the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.~~ The Owner shall, if same is required, secure and pay for the general building permit only. The Contractor shall secure and pay 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.~~ the Work, including, without limitation, the mechanical, electrical, and plumbing permits, the health and environmental impact fees due to water and sewer connections, if any, as relevant to the Work, and all other fees and permits necessary for the Work. The Contractor, in securing other permits for construction of the Work or with regard to any other aspect of the Work which requires a permit, notwithstanding anything to the contrary in the Contract, shall at its own cost and expense make the necessary arrangements to complete, file, and have sealed by a professional engineer licensed in the jurisdiction (if required), any and all preliminary affidavits or certifications that may be required by the governing agency or agencies having jurisdiction for issuing permits for the Work which are legally required when bids are received, but in any case, prior to starting Work.

§ 3.7.1.1 The Contractor shall promptly deliver copies of such documents to the Owner.

§ 3.7.1.2 If in connection with the Project, the Owner has obtained certain permits, licenses or agreements for the Project, the Owner will furnish copies of these documents to the Contractor. It is the

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Contractor's responsibility to comply with any conditions or limitations placed on the Project or the Work by any permits, licenses, or agreements relating to the Project or the Work. The Contractor (with no increase in the Contract Sum or extension of the Contract Time) shall fully cooperate with the Owner in meeting the requirements of any permits, licenses, or agreements, and accommodations of regulatory inspections and directives.

§ 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. Contractor shall pay any costs or fees incurred in such compliance and any fines or penalties imposed for violation thereof. In addition, Contractor shall, to the fullest extent permitted by law, defend, indemnify, and hold harmless the Owner, Construction Manager, and Architect (and the board members, officers, administrators, agents, and employees of any of them) from any resulting fines, penalties, judgments or damages, including reasonable attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder) imposed on, or incurred by such indemnified parties due to any such violation (or alleged violation). This provision shall survive the completion or termination of the Contract.

§ 3.7.2.1 The Contractor shall be responsible for and coordinate any and all inspections required by any governmental body or other authority having jurisdiction over the Work and secure approvals of and comply with requirements of all such authorities and deliver certificates and/or other appropriate documentation of approvals to the Construction Manager and Architect, and shall prepare all documents, including drawings, and pay all costs, necessary or relating to securing such approvals.

§ 3.7.2.2 Certificate of Occupancy:

.1 It shall be the responsibility of the Contractor to obtain all necessary approvals and releases from governing agencies and other authorities having jurisdiction over the Work and to satisfy all requirements for the issuance and obtaining of any required temporary and final certificates of occupancy.

.2 Contractor shall, without limitation, be responsible for the costs of applying for and obtaining such certificates of occupancy, and, if required, shall file and have sealed, by a professional engineer licensed in the jurisdiction, the final affidavit(s) of certification that the Work has been constructed in conformance with filed documents, ordinances, rules, and regulations and such other data that may be required by the governing agency or agencies having jurisdiction over the Work and/or this Project.

.3 Said certificates (if required for the Work) shall be turned over to the Construction Manager and Architect prior to certification of final payment and in connection with same.

§ 3.7.2.3 Upon completion of the Work and as an express condition precedent to final payment, the Contractor shall deliver to the Construction Manager and the Architect original copies of all required final certificates of inspection, the Certificate of Occupancy, and all other documents evidencing that inspections required by authorities having jurisdiction over the Work have been performed.

§ 3.7.3 If the Contractor performs Work ~~knowing~~ where it knows or should have known 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. It shall be the obligation of the Contractor to review the Contract Documents to determine and to notify the Construction Manager and the Architect of any discrepancies between building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine. Contractor's review, however, is in its capacity as an experienced contractor and not a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are not otherwise the responsibility of Contractor pursuant to any other provision or requirement of any of the Contract Documents and 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 written notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than ~~14~~ seven (7) days after first observance of the

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conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, 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, in consultation with the Construction Manager, 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, Construction Manager, and Contractor, stating the reasons. If the ~~Owner or~~ Contractor disputes the Architect's determination or recommendation, ~~either party may submit~~ the Contractor may make a Claim as provided in and subject to 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, Construction Manager, 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.

§ 3.8.1 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.~~direct.

...

§ 3.8.4 SEE SPECIFICATIONS – ALLOWANCES – SECTION 012100.

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary ~~assistants who~~ assistants. Prior to starting the Work, the Contractor shall designate its project manager, superintendent and other key individuals who shall be assigned to the Project through and including final completion. Such designation shall be in writing and provided to the Construction Manager, Architect and Owner. The superintendent shall be in attendance at the Project site ~~during performance of the Work.~~ throughout performance of the Work, including full completion of the punch list. Unless approved otherwise by the Owner in writing in advance, the Contractor's superintendent shall be assigned solely to this Project and shall not perform any duties or superintendence on any other Project until completion of this Project. The superintendent shall be subject to approval by the Owner and the Construction Manager in their sole discretion. Said superintendent shall be qualified in the type of Work to be undertaken and shall not be changed during the course of construction without the prior written consent of the Owner or Construction Manager in their discretion. Should the superintendent leave the Contractor's employ, Contractor shall promptly designate a new superintendent. Owner and Construction Manager shall have the right, at any time, to direct a change in the Contractor's superintendent or any of its representatives if their performance is unsatisfactory in the determination of Owner or Construction Manager in their discretion. In the event of such demand, Contractor shall, within five (5) days after delivery of notification thereof, replace said individuals(s) with an individual satisfactory to Owner or Construction Manager. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given ~~to the Contractor.~~to the Contractor. The Owner shall have no obligation to direct or monitor the Contractor's employees. All references herein to the superintendent shall be taken to mean the Contractor's superintending staff. All substantive communications from Contractor to Construction Manager, Architect or Owner shall be made and/or confirmed in writing by Contractor.

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

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~~§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager, or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.~~

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project ~~schedule,~~ Schedule, a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, ~~including~~ including, without limitation: (1) the date of commencement of the Work, interim schedule ~~milestone dates, and the date of Substantial Completion;~~ Milestone Dates, and the Required Substantial Completion Date; (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.~~ Project, subject to all other relevant terms of this Contract. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

§ 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 Construction Manager's and Architect's approval. The ~~Architect and Construction Manager'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 Construction Manager and 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. In no instance shall Contractor be entitled to an increase in the Contract Sum based on the time required or taken for review of submittals (See Section 8.3.1).

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager, the Architect, and the Owner in reviewing and coordinating all schedules for incorporation into the Project ~~schedule~~ Schedule that is prepared by the Construction ~~Manager.~~ Manager (the "Project Schedule"). The Contractor shall make revisions to ~~the~~ its construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project ~~schedule.~~ Schedule. Failure of Contractor to notify Construction Manager, Owner and Architect of any objection, in writing, within five (5) days of receipt of any Project Schedule, including the final, coordinated, detailed Project Schedule and/or any updates thereto, shall be deemed acknowledgement of Contractor's acceptance thereof.

§ 3.10.4 The Contractor shall perform the Work in ~~general~~ accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved ~~Project schedule.~~ Project Schedule. After approval of the initial Project Schedule, any updated Project Schedule(s) based upon the current schedule status of the Work and incorporating changes based on actual progress and new or more reliable information, and/or information provided to Construction Manager by Contractor pursuant to Section 3.3.10 of this A232-2019 (as modified) or otherwise, shall be subject to Construction Manager's written approval, shall not change the currently established Required Substantial Completion Date or any of the Milestone Dates, and shall not be binding upon Owner in any manner. Notwithstanding the preceding or any approvals by Construction Manager or Owner of any updated Project Schedules, or any information provided to Construction Manager by Contractor pursuant to Section 3.3.10 of this A232-2019 (as modified) or otherwise, or anything in this Contract to the contrary, any change to the Required Substantial Completion Date or any of the Milestone Dates shall only be pursuant to a Change Order signed by Owner pursuant and subject to all applicable provisions in the Contract Documents, including, without limitation, those in Article 8 of this A232-2019 (as modified).

§ 3.10.5 The Contractor shall be responsible for coordinating and expediting its fabrication and delivery schedules and keeping the Construction Manager, Architect and Owner informed as to its progress and its anticipated ability to stay on schedule. The Contractor shall monitor the progress of the Work for conformance with the Project Schedule and shall promptly advise Construction Manager and Owner of any delays or potential delays. Contractor shall update and coordinate its construction schedule with the Project Schedule in accordance with its schedule reporting requirements set forth in Section 3.3.10 above, or more frequently if requested.

§ 3.10.5.1 Without limitation to Section 3.10.5 above, the Contractor shall submit progress/status reports on

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fabrication on long lead items (items requiring four (4) weeks and over to fabricate) to the Construction Manager, Architect and Owner every week.

§ 3.10.6 The Contractor shall schedule, coordinate and perform its Work, in cooperation with the Construction Manager, Architect and Owner, so as to avoid conflict, delay in, or interference with the work of other Contractors or operations of the Owner's own forces or Separate Contractors. The Contractor is solely responsible for the accuracy and adequacy of the scheduling information it provides to the Construction Manager, Architect and Owner as necessary for preparation of the overall Project Schedule; therefore, the Contractor is solely responsible for the accuracy and adequacy of the Project Schedule (or its updates) as it pertains to the Contractor's Work.

§ 3.10.7 TIME IS OF THE ESSENCE to the Owner for the Contractor's completion of its Work and completion of the Project. Accordingly, the Contractor shall prosecute the Work diligently, using such means and methods of construction in accord with the requirements of this Contract as will assure its completion not later than the Required Substantial Completion Date and any earlier Milestone Dates as may be extended only as provided by and subject to all applicable terms of this Contract.

§ 3.10.8 The Contractor shall include in its Contract Sum, all out of sequence Work and any Work required to be performed during overtime hours or non-working hours necessary to maintain the Project Schedule or any separate Owner's move-in schedule.

§ 3.10.8.1 The Owner shall have the right to direct a postponement or rescheduling of any date or time for the performance of any part of the Work that may interfere with the operation of the Owner's premises or any tenants or invitees thereof. The Contractor shall, upon the Owner's request, reschedule any portion of the Work affecting operation of the premises to hours during which the premises are not in operation. Any postponement, rescheduling or performance of the Work under this section may be grounds for an extension of the Contract Time, if permitted and subject to all provisions relating to such, so long as additionally: (1) the performance of the Work postponed or rescheduled was originally properly scheduled by the Contractor in compliance with the requirements of the Required Substantial Completion Date and any earlier Milestone Dates and the Contract Documents; and (2) such rescheduling or postponement is required solely for the convenience of the Owner.

§ 3.10.9 If the Contractor shall fail to adhere to the approved Project Schedule, it shall, at no additional cost to Owner (i.e., no increase in the Contract Sum), promptly adopt such other recovery plans and means and methods of construction as will make up for the time lost and will assure completion in accordance with the approved Project Schedule.

§ 3.10.10 When the Contract Documents use the term "coordinate" and "coordination" in relation to the Contractor, those terms shall refer to the obligation of the Contractor to plan and direct its Work in cooperation and coordination with other Contractors and with Owner's own forces and Separate Contractors at all times when the Work of the Contractor or its Subcontractors overlaps or dovetails with other work at the site, to the end that the overall Project is carried out continuously, in an efficient, workmanlike manner, without conflict between any trades, and so that no trade, at any time, causes delay to the general progress of the Project.

§ 3.10.11 The scheduling and coordination obligations of Construction Manager under this Contract are for the sole benefit of the Owner and are not intended to create any rights whatsoever in favor of Contractor. The Contractor shall not have any Claim whatsoever against the Owner or Construction Manager or Architect arising out of any alleged neglect or failure on the part of Owner or Construction Manager or Architect to schedule or coordinate the Work of the Contractor.

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~~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 Construction Manager, Architect, and Owner, and delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed.~~§ 3.11.1 Immediately upon request from the Owner, the Construction Manager or the Architect, 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,

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Samples, and similar required submittals. These shall be in electronic form or paper copy (at the choice of the Owner, the Construction Manager or the Architect in their discretion), available to the Construction Manager, Architect, and Owner, and delivered to the Construction Manager or Architect (as directed by the Construction Manager) for submittal to the Owner upon completion of the Work (after review and approval by Architect) as an express condition precedent, among other things, to final payment, as a record of the Work as constructed, showing complete exact as-built conditions, including without limitation, structural, mechanical, electrical, and other basic building systems as specified in the Contract Documents regarding Contractor's Work and otherwise as required or may be directed by Architect. All marked-up as-built drawings shall be subject to Architect's approval in its discretion.
§ 3.11.2 Contractor shall maintain at least one (1) digital/electronic copy of all correspondence, memoranda and bulletins and other documents and written communications to and from the Owner, Construction Manager, Architect, consultants, Subcontractors, suppliers, public agencies and authorities, other authorities with jurisdiction over the Work, and others, arising out of or relating to the Work of this Contract or the Project, and shall deliver same to Construction Manager and/or Owner immediately following any request from either Construction Manager or Owner.
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§ 3.12.1 ~~Shop Drawings~~ "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~~ "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~~ "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 (all of which may be referred to individually and/or collectively as "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 and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors. Contractor shall review all submittals for completeness. Contractor is responsible to stamp all Shop Drawings prior to submission to the Construction Manager and Architect. All information requested in the Contract Documents or otherwise by the Construction Manager or Architect shall be provided by Contractor in the form and following such procedures prescribed by the Construction Manager and the Architect. Submittals/ Shop Drawings will be returned without review if the information is not provided as required or if procedures as prescribed are not followed to the Construction Manager's or Architect's satisfaction.

§ 3.12.5.1 Unless specified otherwise elsewhere in the Contract Documents, Contractor shall generate a complete "Submittal Log" within one (1) calendar week of issuance of a Notice to Proceed or commencement of Work, whichever is earlier. This log shall list all required submittals specific to the trade as detailed in the Project Manual/Specifications. If Construction Manager provides a form for compliance with the terms of this Section, such form shall be used by Contractor.

§ 3.12.5.2 All submissions shall be sent to the Construction Manager and Architect by any method required by Construction Manager and Architect for such submission.

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§ 3.12.5.3 Unless required otherwise elsewhere in the Contract Documents, Contractor shall provide one transmittal for each submittal identifying each unique submittal individually, and for each submittal, the Contractor shall identify the length of the delivery time and the necessary "last date" an item may be received on site. Contractor shall keep a log of all of its submittals in a manner prescribed by the Construction Manager and Architect.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, 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. Architect's review of such Shop Drawing and submittals is for the purpose of checking for conformance with information given and the design concept expressed in the Contract Documents, and not for the purpose of determining the accuracy and completeness of details such as field/site 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 its obligations under the Contract Documents. The Architect's review shall not constitute approval of safety precautions or, unless otherwise expressly stated by the Architect, 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.

§ 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 been reviewed and approved by the Architect. Contractor shall be responsible for all cost and expense relating to any Work performed by it in violation of this Section.

§ 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 Construction Manager and Architect in writing 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.
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§ 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.~~ Documents by the Architect. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, 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, the Architect, and the Construction Manager 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~~ Architect has 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. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors. Nothing herein shall limit or restrict Architect's obligations to Owner as set forth in its contract with the Owner.

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§ 3.12.11 Contractor is responsible for providing any required mock-ups required by the Contract Documents out of sequence as needed for the Project.

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§ 3.13.1 The Contractor shall confine operations at the site to areas designated by the Owner or Construction Manager and 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.
§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site. Field personnel are to be confined to the Work area assigned.

§ 3.13.3 Unless otherwise specified in the Contract Documents, Contractor is responsible for its own storage and personnel trailers at the site, and Contractor will be required to supply trailers and storage as required. All costs related to delivery, construction, protection, power, etc. shall be borne by the Contractor. The Owner (unless otherwise specified in the Contract Documents, or otherwise agreed by Owner in its discretion) WILL NOT PROVIDE STORAGE SPACE. The placement of trailers will be strictly limited to predetermined locations. Approval of the placement of any trailer or storage box must be received from the Construction Manager.

§ 3.13.3.1 Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it is to be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall be held responsible for repairs, patching, or cleaning arising from such use.

§ 3.13.4 The right of possession of the premises and the improvements made thereon by the Contractor shall remain at all times in the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents, which may be revoked by Owner at any time in its discretion.

§ 3.13.5 Contractor shall confine its use of the premises, for all purposes, to the areas occupied by the construction and related storage areas as and if shown in the Contract Documents or as prescribed by the Construction Manager.

§ 3.13.6 The Contractor shall provide all required temporary access walkways, both interior and exterior, temporary partitioning and the like necessary to complete all operations.

§ 3.13.7 The Contractor shall maintain unobstructed entrance to and/or exit from any present building complex. All Contractor's Work areas shall be kept clean each day of refuse. THE ENTIRE FACILITY WILL REMAIN IN OPERATION DURING THE COURSE OF THE ENTIRE CONSTRUCTION OPERATIONS. Contractor shall schedule its Work so as not to interfere with any traffic to and from the required areas of use. Contractor shall be responsible for maintaining all traffic and shall provide all required barriers and protection as required to safeguard the Work and the public and the occupants of the building during Construction.

§ 3.13.8 Contractor, its Subcontractors, workmen, suppliers, etc., will be held to adhere strictly to all Owner requirements and shall not occupy or carry on traffic through other parts of the site or interior of present buildings, except by specific permission from the Owner.

§ 3.13.9 The Contractor shall repair or replace any existing trees, shrubbery or other planting damaged by operations and/or workmen employed in performance of the Contract.

§ 3.13.10 During the whole course of the Work, the Contractor shall conduct its Work and operations as to interfere with traffic near the Work as little as possible and effect by every reasonable means the safety and comfort of pedestrians, vehicles and vehicle passengers near the Work.

§ 3.13.11 Employees, vehicles, equipment, and material of Contractor and of all others utilized by the Contractor for the performance of its Work shall enter onto the construction site only at those locations designated or approved by the Owner as made known by Construction Manager.

§ 3.13.12 Contractor shall familiarize itself with all access and storage requirements and shall be subject to the same. Contractor shall properly maintain all access to Work and storage areas so that there will be continuous unimpeded access to the Work site in all seasons of the year, on all regular working days and during all regular working hours by any Contractors, Owner's own forces or Separate Contractors at the site.

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§ 3.13.13 Only such vehicles, trucks and equipment shall be parked or stored within the Work area as are absolutely necessary for performing the Work. ALL OTHER CONTRACTOR'S VEHICLES AND/OR EMPLOYEES' AND/OR WORKMEN'S VEHICLES, INCLUDING PASSENGER CARS, SHALL BE PARKED OFF THE SITE.

§ 3.13.14 The Contractor and any entity for which the Contractor is responsible shall not erect any sign on the Project site without the written consent of the Owner, which may be withheld in the sole discretion of Owner.

§ 3.13.15 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas, other than those designated by the Owner. Without limitation to any other provision of the Contract Documents, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site and any buildings thereon as amended from time to time. The Contractor shall immediately notify the Owner in writing if during the performance of the Work the Contractor finds compliance with any portion of the rules and regulations to be impracticable, setting forth the problems of such compliance and suggesting alternatives through which the same results intended by such portions of the rules and regulations can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives, or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project site and any buildings located thereon.

§ 3.13.16 The Contractor shall provide full and free access for the Architect, Construction Manager, Owner and/or their representatives, to inspect job materials, equipment, fabrication, facilities, and storage locations, at and away from the Project site.

§ 3.13.17 **Security:**

§ 3.13.17.1 It will be the responsibility of the Contractor to provide necessary and required security measures to adequately safeguard the Work site from vandalism and intrusion of unauthorized persons.

§ 3.13.17.2 The Contractor shall submit the means and methods of security to the Owner through the Construction Manager. The Project site must be secured 24 hours a day, seven (7) days a week, including all holidays.

§ 3.13.17.3 All workpersons and employees of Contractor are prohibited from:

.1 Trespassing or leaving any vehicle on any property not assigned by the Owner as set aside for the use of the Contractor.

.2 Leaving any vehicle on the grounds unless it is locked, and the ignition keys are removed.

§ 3.13.17.4 All Contractor employees or persons for whom Contractor is responsible entering upon the Work site and/or property surrounding the Work site are restricted to the immediate area necessitated by the Work.

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§ 3.14.3 Unless specified otherwise elsewhere in the Contract Documents, all cutting and patching Work shall be done by the Contractor (or through the appropriate Subcontractor). Patches in finish surfaces shall match the adjacent surfaces in material, finish, detail, and quality. Patches in fire rated construction or construction required to be smoke tight shall be made in conformance with assemblies designed and tested by agencies recognized by governing codes. Any UL rated fire-safing materials, flanges, or other materials required by Code, the Contract Documents, or manufacturer's installation instructions for devices penetrating the Work affected shall be applied and installed by an approved firestop Subcontractor or qualified personnel from the applicable trade.

§ 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~~ On a daily basis and 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.

§ 3.15.1.1 The Contractor shall broom sweep all Work areas every day. The Construction Manager or Owner may perform an inspection each afternoon to determine that the Work areas of the Contractor have been properly cleaned.

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§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner's approval, may do so without notification to the Contractor and the Owner shall be entitled to reimbursement from ~~the Contractor.~~the Contractor for all costs arising out of or relating to such, including, notwithstanding anything in the Contract Documents to the contrary, reimbursement for the cost of the time of any custodial staff of Owner utilized for cleaning up.
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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~~ shall, to the fullest extent permitted by law, indemnify and hold the Owner, Construction Manager, and Architect harmless from ~~loss on account thereof,~~ all cost, expense, loss, claims, causes of action, judgments, including, without limitation, attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), arising out of or relating thereto, 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, Architect, or Construction Manager. However, if an infringement of a copyright or patent is discovered by, or made known or should be known to, the Contractor, the Contractor shall be responsible for the ~~loss~~ loss, including having all the indemnity obligations hereunder, unless the information is promptly furnished to the Architect through the Construction Manager. The obligations herein are without limitation and in addition to all other indemnity obligations of Contractor elsewhere in the Contract Documents, or as provided by law or equity. The obligations in this Section 3.17 shall survive the completion of the Contract or its termination.

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§ 3.18.1 To the fullest extent permitted by law, the Contractor shall ~~indemnify~~ defend, indemnify, and hold harmless the Owner, the Owner's Board of Education, Construction Manager, Architect, Construction Manager's and Architect's consultants, and the board members, officers, administrators, agents and employees of any of them (each individually and collectively an "Indemnified Party"), 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, provided that such claim, damage, loss, or expense is attributable to~~ liabilities, demands, lawsuits, causes of action, judgments, costs and expenses, of every kind, character, nature, or type, including, but not limited to, attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), (collectively referred to in this Section 3.18 as "Claims and Losses"), that are caused by, attributable to, arise out of or result from or are in any way connected, in whole or in part, to the performance of the Work or any act or omission by Contractor or a Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them are liable, provided that such Claims and Losses are attributable to (i) bodily injury, sickness, disease or death, or (ii) to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts they may be ~~liable,~~ liable (an "Indemnified Claim"), regardless of whether or not such ~~claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall~~ Indemnified Claim is caused in part by an Indemnified Party indemnified hereunder or whether contractual liability for indemnity or liability without fault is sought to be imposed on the Owner or any other Indemnified Party. Notwithstanding the preceding, it is further agreed that notwithstanding any provision to the contrary in this section or anywhere else within the Contract Documents, all of the defense and indemnification and hold harmless obligations herein are subject and subordinate to the limitations of any applicable laws of the State of New York and in no event shall Contractor nor any other party be required to defend or indemnify any Indemnified Party in violation of such applicable laws. It is further understood that in the event that a court of competent jurisdiction determines that any of the defense or indemnification obligations hereunder are unenforceable in whole or in part, Contractor's obligation to defend and indemnify shall be replaced with the strictest enforceable defense and indemnification provision allowable by applicable law. Contractor's obligations set forth herein 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~~ an Indemnified Party described in this Section 3.18.

§ 3.18.2 In claims against any Indemnified Party or other person or entity indemnified under this Section 3.18 and its subsections 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

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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.

§ 3.18.3 The obligations contained in this Section 3.18 and its subsections shall survive the completion or termination of this Contract.

§ 3.19 Without limiting Section 3.18 above, the Contractor shall additionally, to the fullest extent permitted by law, defend, indemnify and hold harmless any Indemnified Party (as defined in Section 3.18.1 above) from and against any and all Claims and Losses (as defined in Section 3.18.1 above) that are caused by, attributable to, arise out of or result from or are in any way connected, in whole or in part, to Contractor's violation (or alleged violation) of any laws or regulations applicable to the Contractor's Work, but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable. The obligations contained in this Section 3.19 shall survive the completion or termination of this Contract.
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~~§ 4.1.3 Duties, responsibilities, and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Construction Manager, Architect, and Contractor. Consent shall not be unreasonably withheld.~~

§ 4.2.1 ~~The~~ Without limiting the Architect's and Construction Manager's respective responsibilities and obligations to the Owner as set forth in their respective agreements with the Owner, the Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 ~~The~~ For the benefit of Owner only, and not Contractor, 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. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work. This Section 4.2.2 shall not be deemed as any type of limitation on the Architect's responsibilities and obligations to the Owner as set forth in its agreement with the Owner.

§ 4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for site visits made necessary through any fault of the Contractor to maintain the Project Schedule or for defects and deficiencies in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. ~~The~~ For the benefit of Owner only, and not Contractor, the Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will ~~promptly~~ report to the Owner and Architect known deviations from the Contract Documents and the most recent Project ~~schedule,~~ Schedule, and defects and deficiencies observed in the Work. This Section 4.2.3 shall not be deemed as any type of limitation on the Construction Manager's responsibilities and obligations to the Owner as set forth in its agreement with the Owner.

§ 4.2.3.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Construction Manager for site visits made necessary through any fault of the Contractor to maintain the Project Schedule or for defects and deficiencies in the Work.

§ 4.2.4 ~~The Construction Manager~~ Separate from and in addition and without limitation to all of Contractor's obligations under the Contract Documents, the Construction Manager, for the benefit of Owner, will schedule and

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coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project ~~schedule.~~Schedule.

§ 4.2.4.1 If there is a coordination conflict between or among any of the Contractors on the Project, and if the Owner, or Contractor, or any other Contractors, make a written request to the Construction Manager, the Construction Manager shall use reasonable efforts to recommend a reasonable solution. The Construction Manager shall make such recommendations consistent with the latest approved Project Schedule, to the extent reasonably possible, as judged by the Construction Manager. The Contractor shall participate with other Contractors and the Construction Manager and Owner in reviewing the Project Schedule when directed to do so. If so directed by Construction Manager or Owner in order to resolve coordination conflicts, the Contractor shall change the sequence or schedule of its Work in the manner provided for in these General Conditions (A232-2019, as modified) and as otherwise may be required under the Contract Documents. See also, without limitation, Section 3.10 (and its subsections) and Article 8 of this A232-2019 (as modified).
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§ 4.2.6 **Communications.** ~~The Owner shall communicate with the Contractor and the Construction Manager's consultants~~ Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized or written notices are required to be provided directly to Owner pursuant to any provision in these General Conditions of the Contract (A232-2019, as modified) or elsewhere in the Contract, the Contractor shall communicate with the Owner through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner ~~and Construction Manager 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 Construction Manager otherwise relating to the Project. Communications~~ may generally communicate with the Contractor through the Construction Manager, but there shall be no limitation on Owner's right to directly communication with Contractor. When Contractor responds to Owner following a direct communication from Owner to Contractor, Contractor shall contemporaneously provide a copy of the same communications to the Construction Manager. Contractor's 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~~ generally be through the Contractor, but there shall be no limitation on Construction Manager's, Owner's, and Architect's right to directly communicate with Subcontractors and material suppliers as they deem necessary in their discretion. Contractor's communications by and with other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. ~~The Contract Documents may specify other communication protocols.~~To the extent that any other communication protocols set forth in any Contract Documents are in conflict with any terms or requirements in this A232-2019 (as modified) for any written notice(s) to Owner or written approvals, consents, or waivers from Owner, the terms of this A232-2019 (as modified) shall control.
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§ 4.2.8 ~~The~~ For the benefit of the Owner only, the Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or ~~advisable,~~ advisable (for the benefit of the Owner only), the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and ~~decisions of the Architect.~~ initial decisions of the Architect regarding Contractor's performance under the Contract Documents. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager ~~shall~~ may, where necessary and relevant for the Project, prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal ~~schedule~~ schedule, if so created, and any revisions shall be submitted to the Architect for approval.

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§ 4.2.10 The Construction Manager will receive and ~~promptly~~ review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect, for the benefit of Owner and Architect only and not for the benefit of Contractor, that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

...

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and 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 Contract Documents, including, without limitation, under Sections 3.3, 3.5, and 3.12 of this A232-2019 (as modified). The Construction Manager and 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.
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§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain ~~at the site~~ for the Owner one digital/electronic (and where appropriate paper) copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be ~~available to the Architect and the Contractor, and will be delivered~~ immediately available to the Owner and Architect upon request , and will be delivered in final form to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and ~~related~~ all other documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment ~~or final Project Application and Project Certificate for Payment upon~~ following the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 ~~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 Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.~~ Intentionally Omitted.

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

§ 4.2.19 Interpretations and initial 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 initial decisions, the Architect will endeavor to secure faithful performance by ~~both Owner and Contractor, will not show partiality to either,~~ the Contractor, and will not be liable to the Contractor for results of interpretations or decisions so rendered in good faith.

§ 4.2.20 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract ~~Documents.~~ Documents and agreed to by Owner in writing.

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§ 4.2.21 The Construction Manager will receive and review requests for information ("RFIs") from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request (RFI) will be made in writing within any time limits agreed upon or otherwise with ~~reasonable promptness. If appropriate, the Architect will~~ reasonable promptness, but Contractor shall be obligated to submit RFIs in a reasonable time in advance of its need for a response to enable Construction Manager and Architect a sufficient time to act upon such submission or necessary re-submission(s) thereof. Based upon the amount of RFI's received and their level of content, the Construction Manager and Architect shall jointly establish the level of importance of each RFI and shall be allowed a reasonable amount of time in their respective judgment to permit adequate review. The Contractor shall not have any right to an extension of Contract Time on account of delays due to the Contractor's failure to submit requests for the required information or the required approval in accordance with the requirements in this Section 4.2.21 and its subsections or any other requirements set forth elsewhere in the Contract Documents.

(i) The Contractor's request for information shall be prepared and submitted in accordance with the requirements detailed in the Specifications, on the form included therein, or as otherwise approved or directed in advance in writing by the Architect or Construction Manager. The Architect will return requests for information that do not conform to requirements of the Contract Documents.

(ii) The Architect's response to a request for information (RFI), or issuance of a clarification or interpretation shall be considered an interpretation, clarification, supplemental information or an order for a minor change in the Work not involving an adjustment in Contract Sum or extension of Contract Time and not inconsistent with the intent of the Contract Documents, and shall be binding on Contractor, unless expressly provided otherwise in the Architect's response to the RFI.

(iii) If appropriate, the Architect may prepare and issue supplemental Drawings and Specifications in response to the requests for information.

§ 4.2.21.1 Prior to submitting each RFI, Contractor shall first carefully study and compare the Contract Documents, field conditions, other Owner provided information, coordination Drawings, and prior Project correspondence and documentation to determine that the information to be requested is not reasonably obtainable from such sources. Each RFI shall identify the specific sources which were reviewed by the Contractor in an effort to determine the information requested, and a statement to the effect that the information being requested could not be determined from such sources.

§ 4.2.21.2 Unless specifically provided otherwise elsewhere in the Contract Documents, the Contractor shall be responsible to generate its own RFI log with weekly updates and provide same to the Construction Manager. This log shall contain the Drawing reference or Specification section to which the request pertains, the date of the request, to whom the request was made, by whom the request was made, the nature of the request, and the Architect's resolution thereof. This log shall be reviewed at each Project meeting.

§ 4.2.21.3 The Contractor shall reimburse the Owner amounts charged to the Owner by the Architect and/or Construction Manager for responding to Contractor requests for information where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner provided information, coordination Drawings, or prior Project correspondence or documentation.

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§ 5.1 ~~Definitions~~General

§ 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.~~ site **or to otherwise furnish labor, material or other services with respect to a portion of the Work.** 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 other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 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.~~ site **or to otherwise furnish labor, material or other services with respect to a portion of the Work.** 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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§ 5.1.3 Refer to Div. 1 of the Specifications for requirements for a delivery of a list of proposed Subcontractors to Construction Manager and Architect. The listing required by this Section shall be submitted to the Architect (and/or Construction Manager) no later than 15 days from the date of notice of the award of this Contract. Unless otherwise specified in the Contract Documents, this list shall include the names of manufacturers, suppliers, and installers proposed for each of the products, equipment, and materials to be incorporated into the Project. The Contractor shall furnish upon request adequate data on any named entity on the list in order to permit the Architect and the Owner to conduct a proper evaluation. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents and all products furnished by the listed manufacturer must conform to such requirements.

§ 5.2 ~~Award of Subcontracts and Other Contracts for Portions of the Work~~Intentionally Omitted.

~~§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager 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 Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager 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, Construction Manager 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, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager 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, Construction Manager or Architect makes reasonable objection to such substitution.~~

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When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the ~~subcontract.~~subcontract from and after the date on which Owner determines to accept any subcontract agreements(s). All sums due and owing by Contractor to any Subcontractor(s) and/or supplier(s) for Work performed or material supplied prior to the date of Owner's election to accept assignment of such subcontract agreement(s) and/or purchase order(s), if any, shall constitute a debt between such Subcontractor(s)/material supplier(s) and Contractor only. Contractor shall deliver acknowledgment in form and substance satisfactory to Owner from each of its Subcontractors and suppliers of the contingent assignment described herein whenever requested by Owner in writing.

§ 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.~~assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract agreements to a successor Contractor or other entity.

~~§ 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.~~

§ 5.5 Owner Payments to Subcontractors

§ 5.5.1 In the event of any default hereunder by the Contractor, or in the event the Owner, Construction Manager, or

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Architect fails to approve any Application for Payment, that is not the fault of a Subcontractor, the Owner may make direct payment to the Subcontractor, less appropriate retainage. In that event, the amount so paid the Subcontractor shall be deducted from the payment due to the Contractor.

§ 5.5.2 Nothing contained herein shall create any obligation on the part of the Owner to make any payments to any Subcontractors, and no payment by the Owner to any Subcontractor shall create any obligation to make any further payments to any Subcontractor, nor shall it create any contractual or other relationship between Owner and Subcontractor.

...

§ 6.2 Mutual Responsibility Among Contractor and Contractors and/or Owner's Separate Contractors or Owner's Own Forces

...

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect of ~~apparent~~ all reasonably discoverable discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of ~~apparent~~ any reasonably discoverable discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' 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 Contractors or other Contractors that are not ~~apparent.~~ reasonably discoverable.

§ 6.2.3 The Contractor shall not commit or permit any act which will interfere with the performance of work by any of Owner's own forces, Separate Contractors or other Contractors involved with any work on the Project or at the Project site. The Contractor shall, to the fullest extent permitted by law, reimburse and otherwise indemnify and hold harmless the Owner for costs the Owner incurs, including costs that are payable to ~~a~~ any Separate Contractors or to other Contractors, ~~because of~~ to the extent arising out of or relating to 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 delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces, Separate Contractors, or other Contractors.~~ Contractor's obligations hereunder shall survive the completion or termination of this Contract.

§ 6.2.3.1 If the Contractor sustains any damage through any act or omission of Owner's Separate Contractors or other Contractors performing work upon or at the Project site or of work that may be necessary to be performed for the proper execution of the Contractor's Work, the Contractor shall have no Claim or other claim against the Owner for such damage, but shall have a right to recover such damages, that are not waived by other provisions of the Contract Documents, from the Separate Contractors or other Contractors under provisions similar to the this Section 6.2.3 and 6.2.3.1 (and its subsections), that have or will be inserted into the contracts with the Separate Contractors and other Contractors.

(i) Should any Separate Contractors or other Contractors having a contract with the Owner for the performance of work upon or at the Project site, sustain any damage through any act or omission of the Contractor hereunder or through any act or omission of any Subcontractor of the Contractor, the Contractor agrees to reimburse such Separate Contractors or other Contractors for all such damages.

(ii) The Contractor agrees, to the fullest extent permitted by law, to indemnify and hold harmless the Owner, Architect, and Construction Manager from all claims, damages, losses, liabilities, demands, lawsuits, causes of action, judgments, costs and expenses, of every kind, character, nature or type (including, but not limited to, attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder)), made against or suffered by any of them, to the extent arising

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out of or relating to Contractor's acts or omissions or the acts or omissions of any its Subcontractors or anyone directly or indirectly employed by any of them or anyone whose acts any of them are liable. The Contractor's obligations herein are in addition and without limitation to all other obligations of Contractor to Owner and/or Construction Manager and/or Architect and/or any other party indemnified hereunder that exist under the Contract or at law or in equity. The rights of Owner, and/or Construction Manager, and/or Architect, and/or any other party indemnified hereunder are in addition and without limitation to all other rights and remedies of such parties that exist under this Contract or at law or in equity.

(iii) The Owner's right to indemnification hereunder shall in no way be diminished, waived, or discharged, by the exercise of any other right or remedy provided by the Contract or by law or in equity.

(iv) The Contractor's obligations hereunder and all terms and conditions of Sections 6.2.3 and 6.2.3.1 (and its subsections) shall survive the completion or termination of this Contract.

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If a dispute arises among the Contractor, Separate Contractors, other 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~~ Owner, without providing any prior written notice to Contractor, may clean up and the Construction Manager, ~~with notice to the Architect,~~ will allocate the cost among those responsible.

...

§ 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. A change in the Contract Sum or Contract Time shall be accomplished only by Change Order or Construction Change Directive duly signed by the Owner. Accordingly, no course of conduct or dealings between the Parties, or between Contractor and Construction Manager and/or Architect, or express or implied acceptance of alterations or additions to the Work shall be the basis of any Claim for an increase in the Contract Sum or any amounts due under the Contract Documents or an extension of the Contract Time.

...

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

...

§ 7.2.2 All change proposals for changes in the Work or extra Work by the Contractor shall be submitted to the Construction Manager, with a complete labor and material breakdown in such detail and with such backup documentation as required elsewhere in the Contract Documents or as required by the Construction Manager or Owner in either of their discretion. Current labor rates for all trades are to be submitted to the Construction Manager by the Contractor no later than the first scheduled job meeting. When both additions and deductions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase or decrease.

...

.3 Cost to be determined in a manner agreed upon by the ~~parties~~ Parties and a mutually acceptable fixed or percentage fee; or

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§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner in consultation with the Construction Manager and 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 Owner and Construction Manager 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:

...

§ 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.~~Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Owner and Construction Manager in writing 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.

§ 7.3.6 ~~Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager 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.~~
If the Contractor disagrees with the adjustment in the Contract Sum and/or Contract Time, the Contractor may make a Claim pursuant and subject to the applicable provisions of Article 15.

...

§ 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 Construction Manager and ~~Architect.~~ Architect, subject to Owner's approval. 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~~ shall not be paid for Work completed under the Construction Change Directive in Applications for Payment. ~~The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The 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.~~Contractor shall perform such Work without payment, subject to its rights to pursue a Claim for such as provided in and subject to Article 15 and other applicable provisions of the Contract Documents. Any refusal by the Contractor to commence or perform any disputed Construction Change Directive Work or any other disputed Work for which it Claims or requests a Change Order, as directed by Owner, shall constitute a material breach of this Contract by Contractor.

§ 7.3.10 ~~When the Owner and Contractor agree with a determination made by the Construction Manager and 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 Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.~~Agreement to any Change Order (whether resulting from change order request/Claim by Contractor or Construction Change Directive or otherwise) shall constitute a final settlement by Contractor of all matters arising out of or relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and/or the Contract Time.

...

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

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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 Construction Manager immediately in writing 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 written notice to the Construction Manager that such change will affect the Contract Sum or Contract Time, the Contractor expressly waives any adjustment to the Contract Sum or extension of the Contract Time.
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§ 8.1.1 Unless otherwise provided, ~~Contract Time~~ **"Contract Time"** is the period of time, including authorized ~~adjustments,~~ adjustments only as may be allowed pursuant and subject to all terms of this Contract, allotted in the Contract Documents for Substantial Completion of the Work. Notwithstanding anything elsewhere in this A232-2019 (as modified) or in the other Contract Documents to the contrary, the Contract Time (Required Substantial Completion Date and/or any Milestone Dates) shall only be modified by a Change Order signed by Owner.

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§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8. Milestone Dates are dates critical to the Owner's operations that establish when a part of the Work is to commence or be complete. All Milestone Dates, to the extent that there are any in the Project Schedule, are of the essence and shall have the same meaning as the Required Substantial Completion Date for the purpose of Liquidated Delay Damages in this Article 8. Liquidated Delay Damages applied to Substantial Completion shall apply likewise to Milestone Dates when completion requirements for such are missed and shall be incurred until the completion requirements for such Milestone Dates are actually achieved.

...

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the ~~Agreement,~~ Agreement and entering into this Contract, the Contractor confirms that the Contract Time is a reasonable period for performing the Work. Contractor recognizes that the Project Schedule is of critical importance to the Owner. All aspects of construction must reflect that 'TIME IS OF THE ESSENCE' to the Owner.

...

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. Failure to prosecute the Work diligently, using such means and methods of construction consistent with the requirements of this Contract to ensure that the Work of the Project meets all Milestone Dates and the Required Substantial Completion Date shall jeopardize the overall Project Schedule. This failure will mandate Contractor to increase staff, work overtime, or use other means to recover time, at the costs of Contractor. In addition, all costs due to delays in completion of the Work shall be borne by the Contractor and any other Contractors responsible for delays.

...

§ 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, Architect, Construction Manager, or an employee of any of them, or of the Owner's own forces, Separate Contractors, or other Contractors; (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, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.~~ **Contractor No Damage for Delay**. Contractor acknowledges that delays, whether or not foreseeable or anticipated, are common to construction projects of this nature, that, by way of example, and without limitation: the Drawings and Specifications and other Contract Documents for the Project may be incomplete and/or contain errors and discrepancies which will necessitate the issuance of revised Drawings and/or Specifications and/or other Contract Documents and may necessitate Change Orders to correct existing deficiencies; that changes to the Drawings and/or Specifications and/or other Contract Documents often require extensive and time consuming reviews by many individuals before they may be approved or ratified; that the processing of Shop

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Drawings and other submittals and RFIs and their responses may be inordinately slow; that there may be delay, impact, hindrance or interference from any number of factors, including, without limitation, any acts or omissions (in any number, or of any kind or characterization) by other Contractors or Separate Contractors retained by Owner or visitors to the Project site, or by the Owner, Construction Manager, or Architect, or any of their consultants or representatives (including, without limitation, from directions given or not given or scheduling and coordination of the Work by any of them); and that Contractor may encounter adverse weather conditions or force majeure events, or other Excusable Delays (as such term is defined herein below in Section 8.3.2); all of which, whether or not foreseeable or anticipated are deemed "Contemplated Delays". Accordingly, and notwithstanding any other provisions in the Contract Documents to the Contrary, to the fullest extent permitted by law and except to the extent expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any Claim for, and contractually assumes the risk of, any and all loss and expense and damages for delay, interference, hindrance or impact to the progress of its Work, loss of productivity or efficiency, loss of profit, extended home office overhead or any increased costs (including but not limited to increased labor or material costs), for or on account of any delay, obstruction, interference or hindrance, or other impacts to the performance of its Work for any reason whatsoever, including, without limitation, Contemplated Delays, it being understood that the risk for all loss and expense for delay and Contractor's assumption thereof has been anticipated by Contractor's execution of this Contract. IT IS EMPHASIZED THAT NO MONETARY RECOVERY MAY BE OBTAINED BY THE CONTRACTOR FOR ANY DELAY, INTERFERENCE, HINDERANCE, OR IMPACT, AGAINST THE OWNER, OR CONSTRUCTION MANAGER OR ARCHITECT BASED ON ANY REASON AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME FOR COMPLETION OF THE WORK, the amount of which shall be pursuant and subject to the terms set forth in this Contract. The intent of this section is to avoid protracted costly litigation as to whether delays, should they occur, were anticipated or unanticipated, foreseeable or unforeseeable, reasonable or unreasonable or as to whether or not they were the fault or responsibility of Contractor, other Contractors, Owner, Construction Manager, Architect, or Separate Contractors. Contractor agrees that all such delays, interferences, hindrances, and/or impacts, regardless of duration, are within the contemplation of the Parties. Contractor has certified that it has considered, as an experienced contractor, the risk of encountering such delays, interferences, hindrances, and/or impacts in reaching agreement with Owner on the Contract Sum for the Work.

§ 8.3.2 ~~Claims relating to time shall be made in accordance with applicable provisions of Article 15.~~ **Extensions of Contract Time for Excusable Delay**. Absent Contractor's breach of contract or negligence in the performance of its Work and obligations under this Contract, Contractor shall be entitled to an extension of the Contract Time pursuant to a Change Order signed by Owner in the amount of time determined by Owner in its reasonable discretion to be appropriate for delays caused by the following occurrences, but only if such delays are proven to Owner in its reasonable discretion to demonstrably affect the critical path of the Project Schedule as relating to the Work of this Contract: the consequences of Acts of God (such as tornado, flood, fire, hurricane, etc.); unusually adverse weather; industry-wide labor strikes or industry-wide material shortages; wars or acts of terrorism; rebellion; riot; civil disobedience; embargoes; sabotage; stop work orders issued or other action or inaction by governmental or other authorities having jurisdiction over the Project or the Work and outside the reasonable control of Contractor; the presence of hazardous materials that are not the responsibility of the Contractor or about which Contractor does not reasonably have knowledge at the time of execution of the Contract; **non-compliance of the Drawings and Specifications with laws, statutes, regulations and other legal requirements (unless otherwise the responsibility of the** Contractor **pursuant to the Contract Documents)**; changes to laws, statutes, regulations and other legal requirements after execution of this Agreement **(unless otherwise the responsibility of the** Contractor **pursuant to the Contract Documents)**; actions or inactions of the Construction Manager, Architect, the other Contractors, Owner's Separate Contractors, or Owner, which occur through no fault of the Contractor; the Construction Manager's or Architect's failure to reasonably furnish instructions or Drawings or to reasonably act on submissions through no fault of Contractor; or events outside the reasonable control of Contractor (for which it is not contractually responsible) which could not have been reasonably foreseen by Contractor in the development of its construction schedule or the Project Schedule for the Work of this Contract (collectively "**Excusable Delays**"). If the Contractor is delayed at any time in the commencement or progress of the Work by any **Excusable** Delays, then the Contractor shall submit a Claim for an extension of the Contract Time as set forth in Section 8.3.2.1 and its subsections, and, for Claims not waived by Contractor by operation of Article 8 or Article 15 or other applicable provisions of the Contract Documents, the Contract Time may be extended by Change Order for such reasonable time as the Owner may determine in its sole, reasonable discretion. No such Change Order extending the Contract Time, however, shall result in any increase in the Contract Sum or any increased payments to the Contractor for overhead, extended overhead, profit, or for any other amounts of any nature whatsoever (see Section 8.3.1 above regarding no damage for delay).

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§ 8.3.2.1 Time Limits and Other Requirements for Contractor's Notice of Claims for Extension of Contract Time for Excusable Delay. Notwithstanding anything contained elsewhere in the Contract Documents to the contrary, it is an express condition precedent to Contractor's ability to pursue any Claim for extension of Contract Time that the Claim must be initiated by written notice by Contractor to the Owner with a copy sent to the Construction Manager and Architect in strict compliance with the timing and all other requirements of this Section 8.3.2.1 (and its subsections). So that the Owner can properly investigate the Claim and mitigate the effects thereof, TIME IS EXPRESSLY OF THE ESSENCE WITH RESPECT TO CONTRACTOR'S GIVING OF NOTICE OF CLAIM TO OWNER WITH THE INFORMATION AS PROVIDED HEREIN AS AN EXPRESS CONDITION PRECEDENT TO ITS ABILITY TO ASSERT OR OTHERWISE PURSUE ANY CLAIM FOR EXTENSION OF THE CONTRACT TIME.

§ 8.3.2.1.1 Any Claim for Contract Time extension relating to a Excusable Delay shall: (i) be made by Contractor to Owner in writing, with a copy sent to the Construction Manager and Architect, within five (5) days after the Contractor knew or should have known of the occurrence of the event(s) causing the Excusable Delay; (ii) state the basis for the Claim for Excusable Delay; (iii) to the extent practicable, include demonstrable proof that the Excusable Delay affects the critical path of the Project Schedule for the Work, and if not practicable, state the basis why it is impracticable to provide such, and thereafter provide such demonstrable proof within fifteen (15) days; and (iv) suggest strategies to Owner and Construction Manager to mitigate the effect of any such delay, including, without limitation, overtime, re-sequencing, and other remedial methods.

§ 8.3.2.1.2 The Contract Time, as set forth in the Contract, Contractor's schedule and the Project Schedule, shall include an allowance for delays due to reasonably anticipated adverse weather for the area where the Work is located. For the purpose of establishing that abnormal adverse weather conditions have caused a delay, and determining the extent of delay attributed to such weather conditions, the Contractor shall furnish with its notice of Claim (in addition to the information required in Section 8.3.2.1.1 above), National Oceanic and Atmospheric Administration (NOAA) National Weather Service records of climatic conditions during the same time interval for the previous five (5) years for the locality of the Work, the Contractor's daily job site logs/daily construction reports showing weather, job activities, and the effect of weather on the progress of the Work; and an impact schedule showing the effects of the weather event on the critical path of the Contractor's schedule.

§ 8.3.2.1.3 Failure of the Contractor to strictly comply with the requirements of Section 8.3.2 (and its subsections) shall be deemed a conclusive and express waiver by the Contractor of any and all Claims for extension of the Contract Time regarding delay arising from such conditions, occurrences, or events, and Contractor shall not be entitled to and forfeits any right it may have under this Contractor at law or in equity for any recovery or remedy regarding such.

§ 8.3.2.1.4 Failure of the Owner to respond in writing within ten (10) days following delivery of Contractor's written notice required by this Section 8.3.2.1 and its subsections shall be deemed a rejection of the Claim.**§ 8.3.2.1.5** The determination of the Owner regarding any Claim for an extension of Contract Time in response to any notice by Contractor as provided herein shall be binding and conclusive on the Contractor.

§ 8.3.2.1.6 Permitting the Contractor to continue with the Work after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the Contractor after such time, shall in no way operate as a waiver on the part of the Owner of any of its rights and remedies.

§ 8.3.2.1.7 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of any multiple number of causes of Excusable Delay that have concurrent or interrelated effects on the critical path of the Project Schedule for the Work.

§ 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.~~To the extent the Contractor is required to work during overtime hours, weekends, holidays or at other times which are not regularly scheduled, due to the fault of the Contractor, or where Contractor requests to work during these periods to facilitate its schedule, the Contractor shall be responsible for the costs incurred by the Owner, the Construction Manager, the Architect and/or others attributable to working during periods which have not been ordinarily scheduled.

§ 8.4 Liquidated Delay Damages. IT IS AGREED THAT TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS CONTRACT. IN THE EVENT CONTRACTOR FAILS TO ACHIEVE SUBSTANTIAL COMPLETION OF THE WORK BY THE REQUIRED SUBSTANTIAL COMPLETION DATE OR ACHIEVE ANY EARLIER MILESTONE DATES, CONTRACTOR AGREES TO PAY OWNER LIQUIDATED DELAY DAMAGES AS SET

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FORTH HEREIN. Contractor acknowledges that the date for Substantial Completion of the Work as required under the Contract Documents is of the foremost importance and that its failure to achieve Substantial Completion of the entire Work of its Contract for the Project no later than the Required Substantial Completion Date set forth in Section 3.4 of the Agreement (modified A132-2019) and the approved Project Schedule (as may only be adjusted per the terms of this Contract) will result in extreme hardship to Owner and will irreparably interfere with Owner's obligations and commitments, and that it would be extremely difficult and impractical to ascertain and fix the actual damages the Owner would incur. Accordingly, the Parties hereby stipulate and agree that if Contractor shall fail to achieve the Required Substantial Completion Date, Contractor shall be assessed the agreed upon liquidated damages amount of Five Hundred and 00/100 Dollars ($500.00) per day commencing on the first day after the Required Substantial Completion Date, as such amount is agreed to be the amount of damages Owner would sustain and such amount shall not be construed as a penalty but as liquidated damages for breach of contract as a reasonable estimate of the damages Owner will suffer as relating to such delay ("Liquidated Delay Damages"). Such Liquidated Delay Damages shall not be in lieu of or related Owner's actual damages relating to deficiencies or defective Work or to other breaches of the Contract separate from delayed completion. Liquidated Delay Damages shall begin to accrue when the Work under this Contract is not complete by the Required Substantial Completion Date and shall continue to accrue until the date on which the Work of the entire Contract is complete. Since the earlier Milestone Dates, if any, that are included in the Project Schedule for the Work are integral in achieving Substantial Completion of the entire Work by the Required Substantial Completion Date and impact the entire Project Schedule, Liquidated Delay Damages in the daily amount provided herein above shall apply when the Work under the Contract is not completed by any earlier Milestone Dates and shall be incurred until the completion requirements for such Milestone Dates are actually achieved. Any Liquidated Delay Damages incurred by Contractor may be withheld from progress payments at Owner's sole discretion.

§ 8.4.1 No Release. It is further expressly agreed and understood that Owner's assessment of Liquidated Delay Damages is intended to compensate Owner solely for Contractor's failure to meet the Required Substantial Completion Date deadline (and any earlier Milestone Dates) and shall not release Contractor from liability from any other breach of requirements set forth in any of the Contract Documents, including, without limitation, any failure of the Work to conform to applicable requirements.

§ 8.5 Acceleration Due to Contractor Delay – Extraordinary Measures

§ 8.5.1 Extraordinary Measures. In the event the Owner determines that the performance of the Work, relative the Required Substantial Completion Date and/or earlier Milestone Dates for the Project Schedule as relating to the Work of this Contract has not progressed or reached the level of completion required by the Contract Documents, and such delayed performance was not caused by an Excusable Delay for which the Owner in its reasonable discretion has agreed to an extension of Contract Time pursuant to Section 8.3.2 (and its subsections) above, the Owner through the Construction Manager shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction of the Work ("Extraordinary Measures"). The Owner's right to require Extraordinary Measures is solely for the purpose of providing a potential opportunity to compel the Contractor's compliance with the Project Schedule for the Work of this Contract relating to delayed performance for which the Contractor has not developed alternative recovery plans acceptable to the Owner. The Owner's right to order the Contractor to take corrective Extraordinary Measures pursuant to this Section 8.5.1 include, without limitation: (1) working additional shifts or overtime; (2) supplying additional manpower, equipment and facilities; (3) rescheduling activities; and (4) other similar measures. Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Project Schedule for the Work of this Contract as determined by the Construction Manager.

§ 8.5.2 The Contractor shall not be entitled to an adjustment to the Contract Sum in connection with Extraordinary Measures required by the Owner pursuant to this Section 8.5 and its subsections.

§ 8.5.3 The Owner may exercise the rights furnished the Owner under or pursuant to this Section 8.5 and its subsections as frequently as the Owner deems necessary to ensure that the Contractor's performance of the Work will comply with the Required Substantial Completion Date (and any earlier Milestone Dates) set forth in the Agreement or Project Schedule for the Work.

§ 8.5.4 Any rights conferred on the Owner pursuant to this Section 8.5 and its subsections or in any other portion of the Contract Documents shall neither require Owner to exercise such rights for the benefit of itself or the Contractor or any other person or entity or, nor shall they make Owner responsible in any way whatsoever for the Contractor's obligation to complete the Work of the Contract by the Required Substantial Completion Date and any Milestone Dates in conformance with the Project Schedule and all Contract Documents.

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§ 8.5.5 Any refusal by the Contractor to commence or perform such acceleration/expedited Work (Extraordinary Measures) when appropriately demanded by Owner (either directly or through the Construction Manager) pursuant to this Section 8.5 (and its subsections) shall constitute a material breach of this Contract by Contractor.

§ 8.6 Acceleration for Owner's Convenience. Even in the event the Contractor is not delayed in its Work related to the Required Substantial Completion Date or any earlier Milestone Dates, at the Owner's option, the Contractor shall Work additional shifts or overtime, and/or supply additional manpower, equipment and facilities, and/or take other similar measures as directed by the Owner in writing, and the Owner shall have the right to expedite the Work, even out of sequence. Provided the Contractor is: (i) not behind in the progress of its Work relative to the Required Substantial Completion Date or any earlier Milestone Dates, and (ii) not otherwise in default of any of the provisions of the Contract Documents; the Owner shall reimburse the Contractor for the actual and reasonable out of pocket additional labor costs (i.e., additional wages, fringe benefits, insurance) associated with such acceleration and/or overtime Work. Time slips covering said additional wages must be submitted by Contractor and checked and approved by the Construction Manager on a daily basis. Any refusal by the Contractor to commence or perform such acceleration and/or overtime Work shall constitute a material breach of this Contract by Contractor.

§ 8.6.1 If the Owner demands acceleration for its convenience pursuant to this 8.6 and its subsections it shall only be in writing directly from Owner to Contractor with an express identification that the Owner is demanding acceleration for Owner's convenience pursuant to this Section 8.6 and its subsections. Any other demand or request for acceleration shall be deemed to be a demand under Section 8.5 and its subsections (Extraordinary Measures) at no cost to Owner. In the event that Contractor believes that some action on the part of Owner constitutes an acceleration for convenience directive under this Section 8.6 and its subsections, the Contractor shall immediately notify the Owner in writing that Contractor considers the actions as a demand for acceleration for Owner's convenience. This written notification from Contractor shall detail the circumstances of the claimed demand for acceleration for Owner's convenience. Failure of Contractor to deliver such written notice to Owner prior to commencement of any acceleration efforts shall be deemed a conclusive representation by Contractor that it agrees that any such activities and efforts are required by the Contract Documents as part of its base Work and/or are provided pursuant to Section 8.5 above and its subsections at no cost to Owner with no adjustment of the Contract Sum, and Contractor agrees that is shall be forever estopped from asserting otherwise. The Contractor shall not accelerate its efforts until the Owner responds in writing to any written notification from Contractor to Owner hereunder. If acceleration is then directed or required by the Owner, all cost records relating thereto shall be maintained by the Contractor and provided to the Owner through the Construction Manager on a daily basis. The Contractor shall keep cost and other Project records related to any acceleration for Owner's convenience separately from other Project costs and records and shall provide a written record of such costs to the Owner through Construction Manager on a daily basis.

§ 8.6.1.1 As a further requirement in order to preserve a Claim to recover additional costs due to acceleration for Owner's convenience, the Contractor must document that additional expenses were actually incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

§ 8.7 This Article 8 does not preclude recovery of damages for delay by Owner under other provisions of the Contract Documents.

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§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized ~~adjustments,~~ adjustments only pursuant and subject to all applicable terms of the Contract Documents, is the total amount payable by the Owner to the Contractor for performance of the Work and all other obligations under the Contract Documents.

§ 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.~~ Notwithstanding anything to the contrary contained in the Contract Documents, the Owner may withhold any payment to the Contractor hereunder if the Owner determines in its sole discretion that the Contractor has failed to adequately perform its Work or is otherwise in default under any of the Contract Documents; provided, however, that any such withholding shall be limited to an amount (as determined by Owner in its sole discretion) sufficient to cure any such default or failure of performance by the Contractor and is otherwise in compliance with applicable law.

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~~Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values~~ Contractor shall submit a "Schedule of Values" to the Construction Manager, before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The ~~schedule of values~~ Schedule of Values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Construction Manager and the Architect. ~~This schedule, unless objected to by the Construction Manager or~~ The Schedule of Values submitted by Contractor will be adjusted as required by Construction Manager or Architect as necessary for their approval. This schedule, once approved by the Construction Manager and Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's ~~schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by~~ Schedule of Values. There shall be no changes to the Schedule of Values except as expressly directed or approved by the Construction Manager and Architect in their discretion, and Contractor shall, at any time requested by Construction Manager or Architect throughout the duration of the Project, submit such data to substantiate its accuracy as the Construction Manager and the Architect may ~~require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.~~require. The Schedule of Values shall be provided on the AIA G703 form and no payments will be made to Contractor until such billing breakdown and initial submissions are approved.

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§ 9.3.1 ~~At least fifteen days before the date established for each progress payment,~~ On a monthly basis, the Contractor shall submit to the Construction Manager multiple originals of 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,~~ Schedule of Values for completed portions of the Work in compliance with all requirements of Article 5 of the Agreement (modified A132–2019) and elsewhere in the Contract Documents. The application shall be notarized and supported by all data substantiating the Contractor's right to payment that the Owner, Construction Manager or Architect require, such as copies of requisitions, and releases ~~of~~ and waivers of lien from Subcontractors and suppliers, and shall reflect retainage ~~if~~ as provided for in the Contract Documents. The form Application for Payment, duly notarized, shall be the most recent authorized edition of AIA Document G732, Application and Certificate for Payment, supported by the most recent authorized edition of AIA Document G703, Continuation Sheet.

§ 9.3.1.1 As provided in Section 7.3.9, such applications ~~may~~ shall not 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 Construction Manager and Architect, but not yet included in Change Orders.~~Directives.

...

§ 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.~~ writing and under such terms as required by Owner in its sole discretion. 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 Without limitation to the generality of Section 9.3.2: (i) Contractor shall obtain the consent of any Surety to the extent required prior to payment for any materials stored off the Project site; (ii) representatives of the Owner shall have the right to make inspections of the storage areas at any time; and (iii) such materials shall be (1) protected from diversion, destruction, theft and damage to the satisfaction of the Owner, (2) specifically marked for use on the Project, and (3) segregated from other materials at the storage facility.

§ 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,~~ shall be free and clear of liens, claims, security

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interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials and equipment relating to the Work.

§ 9.3.4 In connection with all progress payments, the Contractor shall submit releases/waivers of lien with respect to all Work previously performed and for which payments were made under a preceding application. Beginning with the second payment requisition and with each subsequent payment requisition, Contractor shall furnish to Owner, without limitation, the following documents:

a. Labor and/or Materials Affidavit;
b. Daily and Weekly Wage Affidavit;
c. Contractor's Partial Release and Waiver of Lien;
d. Subcontractors' and suppliers' Partial and/or Final Releases of and Waivers of Lien;
e. Written Certified Payroll information in compliance with applicable laws; and
f. Additional information required by the Construction Manager, Owner, and/or any applicable laws, codes, rules and or regulations applicable to the Work of the Contractor.

§ 9.4.1 ~~Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's~~ Pursuant to the procedures and timelines set forth in Article 5 of the Agreement (modified A132–2019) and elsewhere in the Contract Documents, after receipt of the Contractor's Application for Payment, ~~review the Application, certify~~ the ~~amount the~~ Construction Manager ~~determines is due the Contractor, and forward the Contractor's Application~~ and ~~Certificate for Payment to the Architect. Within seven days after the~~ Architect ~~receives the Contractor's Application for Payment from the Construction Manager, the Architect~~ will either (1) issue to the Owner a Certificate for ~~Payment,~~ Payment in the full amount of the Application for ~~Payment, with a copy to the Construction Manager;~~ Payment; or (2) issue to the Owner a Certificate for Payment for such amount as the ~~Architect determines is properly due, and notify the Construction Manager and Owner of the~~ Construction Manager and Architect determine is properly due based upon their respective reviews of same, and notify the Owner of the Construction Manager's and 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 ~~Construction Manager and~~ Owner of ~~the~~ theConstruction Manager's and Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the ~~Architect's~~ notice of withholding certification.

§ 9.4.2 ~~Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.~~ Intentionally Omitted.

~~§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.~~

§ 9.4.3 The Construction Manager's certification of an Application for Payment ~~or, in the case of more than one Contractor, a Project Application and Certificate for Payment,~~ shall be based upon the Construction Manager's evaluation ~~of the Work~~ of the Work, to and for the benefit of the Owner only, and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a ~~representation~~ representation, to and for the benefit of the Owner only, that, to the best of the Construction Manager'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, or Contractors are, entitled to payment in the amount ~~certified.~~ certified (subject to all other terms of this Contract).

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§ 9.4.4 The Architect's issuance of a Certificate for Payment ~~or, in the case of more than one Contractor, Project Application and Certificate for Payment,~~ shall be based upon the Architect's evaluation of the Work, ~~the recommendation of the Construction Manager,~~ to and for the benefit of the Owner only, the recommendation of the Construction Manager (to and for the benefit of the Owner only), and data in the Application for ~~Payment or Project Application for~~ Payment. The Architect's certification will constitute a ~~representation~~ representation, to and for the benefit of the Owner only, 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, or Contractors are, entitled to payment in the amount ~~certified.~~certified (subject to all other terms of this Contract).

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 are ~~subject~~ made to and for the benefit of the Owner only, and are further subject: (i) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (ii) to results of subsequent tests and inspections, (iii) to correction of minor deviations from the Contract Documents prior to completion, and (iv) to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.6 ~~The issuance of a Certificate for Payment or a Project~~ Without limitation to any separate obligations of either Construction Manager or Architect to Owner in their respective contracts with Owner, the issuance of a Certificate for Payment will not be a representation that the Construction Manager or 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.

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§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment ~~or Project Certificate for Payment~~ in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section ~~9.4.1 and 9.4.2.~~ 9.4.1. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue ~~a Certificate for Payment or~~ a ~~Project~~ Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered ~~evidence,~~ evidence or subsequent observations, may nullify the whole or a part of a ~~Certificate for Payment or Project~~ Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

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.5 damage to the Owner or a Separate Contractor or ~~other Contractor;~~ any other Contractors;

.6 reasonable evidence that the Work will not be completed within the Contract Time, ~~and~~ or that the unpaid balance would not be adequate to cover ~~actual or liquidated damages~~ Liquidated Delay Damages for the anticipated delay; ~~or~~

.7 ~~repeated~~ any failure to carry out the Work in accordance with the Contract ~~Documents.~~ Documents;

.8 violations of law applicable to the Work which are the responsibility of Contractor;

.9 erroneous estimates of the percentage of Work performed;

.10 failure of Contractor to comply with any requests by Construction Manager or Architect for maintaining record drawings (*NOTE* - Contractor may be required to produce record as-built drawings each month. Written confirmation that the record as-built drawings are up to date may be required by the Architect before approval of the Contractor's monthly Application for Payment will be considered).

§ 9.5.2 ~~When either party disputes the~~ If the Contractor disputes the Construction Manager's and/or 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.~~ the Contractor shall submit a Claim pursuant and subject to Article 15 and any other relevant terms of this Contract. If the Contractor disputes any determination by the Construction Manager or Architect with regard to any Certificate of Payment (or any withholding of certification thereof in whole or in part), the

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Contractor shall nevertheless expeditiously continue to prosecute the Work, and failure to do so shall be a material breach of this Contract.

...

§ 9.5.4 ~~If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, 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 Construction Manager, and both will reflect such payment on the next Certificate for Payment.~~The Owner shall not be deemed to be in breach of this Contract by reason of the withholding of any payment pursuant to any provision of the Contract Documents or applicable law.

§ 9.5.5 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option and without any obligation to do so, 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 Construction Manager, and both will reflect such payment on the next Certificate for Payment.

...

§ 9.6.1 After the Architect has issued a Certificate for ~~Payment or Project Certificate for~~ Payment, the Owner shall arrange to make payment in the manner and within the time provided in the Contract ~~Documents, and shall so notify the Construction Manager and Architect.~~Documents.

§ 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. Notwithstanding anything in the Contract to the contrary, the Contractor shall pay each Subcontractor or materialman as required by New York General Municipal Law Section 106(b), for work performed by the Subcontractor or materialman under this Contract. The Contractor shall include in each of its Subcontracts a provision requiring each Subcontractor to make payment to each of its subcontractors or suppliers for Work performed under this Contract in the same manner and within the same time period as set forth herein.

§ 9.6.3 The Construction Manager ~~will,~~ may, 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 Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right but no obligation 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~~ three (3) days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager 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.

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§ 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.~~Documents nor relieve Contractor of any of its obligations under the Contract.

§ 9.6.7 ~~Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments~~ 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~~

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~~entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.~~Owner in conformance with this Contract and applicable law.

§ 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.~~**Mechanic's Liens and Related Claims.** Provided that Owner has made payments to the Contractor in accordance with the provisions of this Contract, including permitted deductions and withholding, Contractor shall, to the fullest extent permitted by law, wholly and fully indemnify and hold harmless Owner from and against any and all mechanic's liens or claims by Contractor's employees, laborers, material suppliers, Subcontractors, or any others for whom Contractor is responsible in connection with the Work, and against all damages, liability, costs and expenses arising out of or relating thereto, including all reasonable attorneys' fees and disbursements (including attorneys' fees relating to the enforcement of this provision, and any appeals, and in obtaining judgments and collection of such costs and expenses), that Owner may suffer or incur as a result thereof. In connection with the foregoing, Contractor shall secure the prompt discharge and/or removal of all mechanic's liens filed in connection with the Work (by posting a suitable bond pursuant to or otherwise in accord with applicable law) within thirty (30) days of notice from the Owner. If Contractor fails to commence the process to discharge or remove or bond any lien within five (5) days after notice of the lien, and notify Owner thereof in writing that it is doing so, or if Contractor thereafter commences the same but fails to diligently prosecute and achieve such discharge or removal or bonding to the satisfaction of Owner in its sole discretion within the thirty (30) days required for such, Owner shall have the right, but not the obligation, to remove or discharge such lien and deduct the cost thereof (including reasonable attorneys' fees, disbursements, and other necessary costs) from any payment due the Contractor. Upon the filing of any lien, the Owner may, without obligation, withhold from Contractor all moneys that Owner reasonably determines it may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees. The provisions of this section are in addition to any other rights available to the Owner under the Contract and/or any Payment Bonds provided by Contractor and/or at law or equity and shall survive the completion of the Work, its final acceptance, the making of final payment to the Contractor, and/or the termination of the Contract.

...

If through no fault of the Contractor: (i) the Construction Manager and Architect do not issue a Certificate for Payment ~~or a Project Certificate for Payment, through no fault of the Contractor, within fourteen~~ in an amount determined to be appropriate by the Construction Manager and Architect or provide notice of withholding certification in whole pursuant to the terms of the Contract Documents , within thirty (30) days after the Construction Manager's receipt of the Contractor's Application for Payment, or (ii) if the Owner does not pay the Contractor within ~~seven~~ thirty (30) days after the date established in the Contract ~~Documents,~~ Documents the amount certified by the Construction Manager and Architect ~~or awarded by binding dispute resolution,~~ and such certified amount is not otherwise appropriately withheld by Owner pursuant to operation any of the terms and conditions of the Contract Documents , then the Contractor may, upon seven (7) additional business days' written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount appropriately 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.

...

§ 9.8.1 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 such that the Work shall have been completed and all systems included in the Work shall be operational in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended ~~use.~~use to the reasonable exclusion of Contractor with only "punch-list" or minor items remaining which can be corrected or completed without any material interference with Owner's use of the Work and the Project.

§ 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 notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed

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or corrected prior to final ~~payment.~~ payment (punch-list). 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.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 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, assisted by the Construction Manager, to determine Substantial Completion. If, through any fault of Contractor, the Architect and/or Construction Manager are required to perform more than two (2) inspections to determine whether the Work has reached Substantial Completion because the Work fails to comply with the Contract Documents, the amount of compensation paid to the Architect and/or Construction Manager by Owner for additional services and Owner's attorneys' fees relating to enforcement of Contractor's obligations shall be reimbursed by Contractor to Owner and may at Owner's discretion be deducted from payments (or final payment) otherwise payable to Contractor, and if such amount is not adequate to reimburse Owner, then Contractor shall pay Owner the difference.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, 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.~~Completion or elsewhere in the Contract Documents.

§ 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.~~ thereof pursuant and subject to all applicable terms of the Contract Documents, including, without limitation, Section 5.1.4.4 of the Agreement (modified A132-2019). Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract ~~Documents.~~Documents including, without limitation, Section 5.1.4.4. of the Agreement (modified A132-2019).

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§ 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,~~ Architect as appropriate for Owner's occupancy or use, provided such occupancy or use is consented to by ~~the insurer~~ any necessary insurers 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 and Construction Manager shall jointly 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.~~ complete. . 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 after consultation with the Construction Manager.~~decision of the Architect in consultation with the Construction Manager.

§ 9.9.2 ~~Immediately prior to such partial occupancy or use, the Owner, Construction Manager, 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.~~Unless otherwise agreed upon, any partial occupancy or use of a portion or portions of the Project site or Work shall not constitute acceptance of Work not strictly complying with the requirements of the Contract Documents.

~~**§ 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.~~

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§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. ~~Upon~~ Following receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and ~~Application for Payment or Project Application for~~ Applications for Payment, to the Architect, who will ~~promptly~~ make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will ~~promptly~~ issue a final ~~Certificate for Payment or Project~~ Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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 Construction Manager's and Architect's final Certificate for Payment ~~or Project Certificate for Payment will constitute a further representation~~ will constitute a further representation, to and for the benefit of Owner only, that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. If, through any fault of Contractor, the Architect and/or Construction Manager are required to perform more than two (2) inspections because the Work fails to comply with the Contract Documents, the amount of compensation paid to the Architect and/or Construction Manager by Owner for additional services and Owner's attorneys' fees relating to enforcement of the Contractor's obligations shall be reimbursed by Contractor to Owner and may at Owner's discretion be deducted from payments (or final payment) otherwise payable to Contractor and if such amount is not adequate to reimburse Owner, then Contractor shall pay Owner the difference.

§ 9.10.1.1 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner through the Architect and the Construction Manager (as directed) all documents and information required by the Contract Documents or reasonably requested by Architect or Construction Manager or Owner, including, without limitation the following:

.1 One (1) hard copy and one (1) electronic Record Set of Drawings showing actual construction of all portions of the Work and incorporating all changes and amendments thereto, as redlined against the 100% Construction Drawings.

.2 Guarantees and Warranties required by specific Sections of the Specifications, including documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties.

.3 Releases and Waivers of Claims (conditioned upon final payment, if relevant) from the Contractor, Subcontractors, Sub-subcontractors and material suppliers, and, if required by the Owner, other data establishing payment or satisfaction of obligations, such as additional 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.

.4 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,

.5 All mechanical and electrical installation, operating and maintenance manuals called for under the Specifications.

.6 All test reports and certifications required under the mechanical and electrical specifications.

.7 Shop Drawing submittals in accordance with Article 3.

.8 All forms required to be completed by the Contractor by regulatory governmental agencies or other authorities with jurisdiction over the Work or the Project, with two (2) copies delivered to the Architect.

.9 A copy of the unconditional final Occupancy Permit and/or Certificate of Compliance issued by the local building inspection department having jurisdiction, unless such is not issued for any reason that is not the responsibility of the Contractor under the Contract Documents.

.10 Manufacturer's current detailed installation instructions for fire dampers, ceiling radiation dampers, smoke dampers, and duct smoke detectors as applicable to the Project.

.11 One (1) copy of the equipment operational and maintenance manuals.

.12 A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect.

.13 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.

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.14 Consent of surety to final payment.

§ 9.10.2 ~~Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (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.~~\ The Construction Manager and Architect shall additionally not issue the final Certificate for Payment until:

.1 the Project or that portion of the Project which encompasses the Work of the Contractor has been completed and accepted by Owner, Architect and Construction Manager, and;

.2 all procedures regarding final payment have been completed and the Owner has received state agency approval (if required) to make final payment, and otherwise all approvals and/or sign-offs have been obtained from any authorities having jurisdiction over the Work or the Project which are required with respect to the Work of this Contract.

§ 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 Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and 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 through the Construction Manager 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.~~Intentionally Omitted.

§ 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.~~Intentionally Omitted.

§ 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.~~full and express waiver of Claims or other claims by that payee.

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§ 10.1.1 Contractor shall submit its site safety and corporate safety policy/program to the Construction Manager immediately upon Construction Manager's request following notice of award of this Contract and no later than the time of execution of this Contract, unless otherwise specified elsewhere in the Contract Documents or as directed by Contractor in writing. The safety policy/program shall be in conformance with and meet or exceed OSHA standards and other applicable federal, state and local statutes, laws, codes, ordinances, regulations, rules, and lawful orders of public authorities. The safety policy/program shall also include provisions requiring Subcontractors to participate in safety training to acquaint such Subcontractors with the provisions of the Regulations of the Commissioner of Education (Section 155.5) and shall set forth how the Contractor plans to maintain a safe work environment.

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§ 10.1.2 Without limitation to any other obligations in this Article 10 or elsewhere in the Contract Documents and/or in applicable law, and consistent with New York Labor Law §220-h, where the total cost of all Work to be performed under this Contract is at least two hundred fifty thousand dollars, it is required that all laborers, workers, and mechanics employed in the performance of the Contract on the Work site, either by the Contractor, Subcontractor or other person doing or contracting to do the whole or a part of the Work, 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.

...

§ 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.~~personnel and give the Owner reasonable advance notice, and shall maintain on the site, a full set of safety instructions relating to all such materials.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under Owner's property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4. ~~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, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any 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 and without limitation to the Contractor's obligations under Section ~~3.18.~~3.18, and otherwise at law or in equity. The Contractor's obligations herein shall survive the completion or termination of this Contract.

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If ~~either party~~ Contractor or any Subcontractor (or any of their employees or anyone for whom either of them are legally responsible) 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,~~ property, written notice of the injury or damage, whether or not insured, shall be given to the ~~other party~~ Construction Manager and Owner within a reasonable time not exceeding ~~21~~seven (7) days after discovery. The notice shall provide sufficient detail to enable the ~~other party to investigate the matter.~~Construction Manager and Owner to investigate the matter.

§ 10.2.9 Smoking and alcoholic beverages are expressly prohibited on all Owner properties. All persons representing Contractor or Subcontractors or suppliers shall wear proper attire while on Owner property. All persons representing Contractor or Subcontractors or suppliers shall conduct themselves in a manner consistent with the rules and policies of the South Orangetown Central School District while on Owner property. Contractors and Subcontractors, suppliers and their employees are to refrain from conversing with school personnel and students. Contractors, Subcontractors, suppliers, and their employees are to refrain from using indecent language and any doing so may be removed from the Project site. Artwork and decoration found on vehicles belonging to Contractors or Subcontractors employees parked on or near the Owner's property which contain indecent language or pictures shall be removed from the location. The use of radios and the like is prohibited within the Project site.

§ 10.2.10 To the extent required by Owner, Contractor shall follow Construction Manager's or Owner's instructions, rules, and regulations regarding registration and photo ID issuance and any requirements for ID badges or other identifiers for employees and laborers.

§ 10.2.11 Unless expressly specified otherwise elsewhere in the Contract Documents or subsequently in writing by Construction Manager or Owner, all crane picks, material delivery, etc. must be coordinated so as not to lift over any occupied area of the building. If necessary, this work shall be done on off hours to ensure the safety of the building occupants. Crane location must be carefully chosen to ensure the safety of building occupants. Also, Contractor must provide all engineering for crane sizing and sub-base platforms if necessary.§ 10.2.12 The Contractor shall take all necessary precautions to ensure against fire during construction and be responsible to ensure that all Work areas are kept orderly and clean and at all times provide proper housekeeping and protections to minimize potential fire hazards and comply with all applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public

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authorities regarding fire protection, prevention, and safety.

§ 10.2.13 From the commencement to the completion of the Work, the Contractor shall keep the Work and the Project site free from accumulation of water no matter what the source or cause of water.

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§ 10.3.2 Upon receipt of the Contractor's ~~notice,~~ notice regarding hazardous materials or substances not addressed in the Contract Documents, 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, Construction Manager 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, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection.~~ When the material or substance has been rendered harmless, Work 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,~~ appropriately.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the ~~Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them~~ Contractor and its Subcontractors from and against claims, damages, losses, and expenses, including but not limited to reasonable attorneys' fees, arising out of or resulting from performance of the Work in the affected area of hazardous materials or substances not addressed in the Contract Documents 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~~ site. The Contractor 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~~ To the fullest extent permitted by law, the Contractor shall reimburse, and indemnify and hold harmless the Owner for claims, damages, losses, cost and expense, including but not limited to reasonable attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), the Owner incurs arising out of or resulting from (1) 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~~ except, in both instances, to the extent that the claims, damages, losses, cost and expense are due to the Owner's fault or negligence. Contractor's obligations in this section are in addition and without limitation to its obligations elsewhere in this Contract (for indemnity and otherwise) or at law or in equity. The Contractor's obligations in this section shall survive the completion or termination of this Contract.

§ 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~~ shall, to the fullest extent permitted by law, reimburse the Contractor for all cost and expense thereby ~~incurred.~~ incurred, except to the extent that any such costs and expenses are due to the Contractor's fault or negligence.

...

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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.~~and subject to Article 15, Article 7, Article 8, and any other applicable provisions of these General Conditions (A232-2019, as modified).

ARTICLE 11 INSURANCE AND BONDS – SEE EXHIBIT A TO A132- 2019 (SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT MODIFIED FORM 2023) – 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. The Owner, Construction Manager and Construction Manager's consultants, and the 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 directly to the Owner, and separately to the Construction Manager, 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.~~

~~**§ 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 both the Contractor and the Construction Manager, separately and 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 directly to the Contractor, and separately to the Construction Manager, of such impending or actual cancellation or expiration. Unless the lapse in~~

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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 Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors and any of their subcontractors, sub-subcontractors, agents, and employees; and (5) 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 Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, other Contractors, 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.

§ 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, Architect, and Construction Manager 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 Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, 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

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~~dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.~~

...

§ 12.1.1 If a portion of the Work is covered contrary to the Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their observation and 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~~ in conformance with requirements in the Contract Documents and the Construction Manager or Architect has not specifically requested to observe or examine such Work prior to its being covered, the Construction Manager or 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.

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The Contractor shall promptly correct Work rejected by the Construction Manager or 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 Construction Manager's and Architect's services and expenses made necessary ~~thereby,~~ thereby and also including, without limitation, the Owner's reasonable attorneys' fees (and also, including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment or collections hereunder), shall be at the Contractor's expense. The rights of the Construction Manager or Architect to reject Work and/or the rights of Owner to require Contractor to correct Work not in accordance with the requirements of the Contract Documents pursuant to this paragraph shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

...

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one (1) 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, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5. The right of the Owner to require Contractor to correct Work not in accordance with the requirements of the Contract Documents pursuant to this paragraph shall not give rise to any duty on the part of the Owner to exercise this right for its benefit or the benefit of the Contractor or any other person or entity.

...

§ 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

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liability with respect to the Contractor's obligations other than specifically to ~~correct the Work.~~physically correct the Work as provided herein.

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~~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.~~This Contract shall, in all respects, be subject to and construed in accordance with the laws of the State of New York without giving effect to the conflict-of-laws provisions thereof that would direct or refer the resolution of any issue hereunder to the laws of another jurisdiction.

...

§ 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~~ Without limitation to Contractor's right to subcontract Work pursuant to the terms of the Contract Documents and applicable law, the Contractor shall not assign, transfer, convey, or otherwise dispose of the Contract or of Contractor's right, title, or interest in the Contract, or Contractor's power to execute this Contract, to any other person or corporation without prior written consent of the Owner. If Contractor attempts to make any such assignment, transfer, conveyance, or disposal, without such prior written consent, Contractor shall nevertheless remain legally responsible for all obligations under the Contract. This provision shall be deemed to be interpreted in accordance with New York General Municipal Law Section 109 and the requirements therein are incorporated herein by reference.

§ 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~~ if otherwise allowed under applicable law and, if the assignee assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

...

§ 13.3.1 Duties and obligations imposed by the Contract Documents on Contractor and rights and remedies available to Owner thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by ~~law.~~law or in equity.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, ~~Architect, or Contractor~~ or Architect 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.

...

§ 13.4.1 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 Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements and were not reasonably foreseeable by Contractor 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.

...

§ 13.4.3 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 Construction Manager's and Architect's

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services and ~~expenses,~~ expenses and also including, without limitation, Owner's attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder) arising out of or related to same, shall be at the Contractor's expense.
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§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so ~~promptly~~ in a reasonably prompt manner and, where practicable, at the normal place of testing.

...

§ 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 place where the Project is located.~~The Contractor hereby expressly waives any rights it may have in law or in equity to lost bonding capacity as a result of any of the actions of the Owner, the Architect or the Construction Manager taken in connection with the Contractor's Work on the Project.

§ 13.6 It is the intent and understanding of the Parties to this Contract that each and every provision of law required to be inserted in this Contract shall be and is inserted herein. Furthermore, it is hereby stipulated that every such provision is to be deemed to be inserted herein, and if, through mistake or otherwise, any such provision is not inserted, or is not inserted in correct form, then this Contract shall forthwith be deemed amended by such insertion so as to comply strictly with the law.
§ 13.7 In addition and without limitation to any other waiver of damages by Contractor against Owner elsewhere in this A232 (as modified) and elsewhere in the Contract Documents, the Owner shall not be responsible for and Contractor expressly waives its right in law and equity to Claim against the Owner for: (i) all damages for loss of anticipated profits or any other damages whatsoever relating to Work not performed on account of any termination of the Contract by the Contractor or termination of the Contract by the Owner or by virtue of the Owner's exercise of its right to take over or otherwise perform any or all of the Contractor's Work pursuant to this Contract; (ii) punitive damages against Owner on account of Owner's termination of the Contract or any other alleged breach of the Contract by Owner; and (iii) lost bonding capacity as a result of any of the actions of the Owner, the Architect or the Construction Manager taken in connection with the Contractor's Work or this Contract on the Project.

...

§ 14.1.1 The Contractor may terminate the Contract in the manner provided herein below if the Work is stopped for a period of ~~30~~ ninety (90) 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:

...

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or

.3 Because ~~the Construction Manager has not certified or 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, 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.~~the Contractor has appropriately stopped Work pursuant to Section 9.7 of these General Conditions.

§ 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.~~Intentionally Omitted.

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§ 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'~~ fourteen (14) days' written notice to the Owner, Construction Manager 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.~~ unless such reason is cured prior to the expiration of said notice period, or if such breach by its nature cannot be cured within such notice period, Owner has diligently commenced to cure such breach and in good faith continues to complete such cure, and recover from the Owner only payment for Work previously and properly executed prior to the effective date of termination but not yet paid (including reasonable overhead and profit only on such Work previously and properly executed but not yet paid), with the basis for such payment only as provided in the Contract Documents. It is agreed and understood that Owner shall incur no other liability to Contractor by reason of such termination, with it being further agreed and understood that the Owner shall not be responsible for or required to pay Contractor for any other costs or damages, including, without limitation, costs or damages for loss of anticipated overhead and/or profit on Work not performed on account of any termination described in this Section 14.1 and its subsections.

~~§ 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 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, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.~~

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.1 ~~repeatedly~~ refuses or fails to supply enough properly skilled workers or proper materials;

...

.3 ~~repeatedly~~ disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;

.4 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all of the requirements of the Contract Documents;

.5 fails to keep the Project free from strikes, work stoppages, slowdowns, lockouts, or other disruptive activity;

~~.4 otherwise is guilty of substantial breach of a provision of~~ .6 is adjudged a bankrupt or insolvent, or makes a general assignment for the benefit of Contractor's creditors, a trustee or receiver is appointed for Contractor or for any of its property, or files a petition to take advantage of any debtor's act or to reorganize under bankruptcy or similar laws;

.7 refuses or fails to correct deficient Work performed by it;

.8 disregards the instructions of the Construction Manager, Architect or Owner (when such instructions are based on the requirements of the Contract Documents); or

.9 otherwise does not fully comply with the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, ~~after consultation with the Construction Manager, 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~~ three (3) days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

...

.2 Take possession of materials stored off site by the Contractor;

.3 Accept assignment of subcontracts pursuant to Section 5.4; and

~~.3~~ .4 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.~~

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The notice provision in this 14.2.2 is for informational purposes only and it is expressly agreed that Contractor shall have no right to cure whatsoever.

§ 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.~~finished, subject to Section 14.2.4 below and all other relevant provisions of the Contract.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's and other consultants' services and expenses made necessary thereby, and including Owner's attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder), and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages including Owner's attorneys' fees (and also including, without limitation, attorneys' fees and expenses incurred in any appeals, or any enforcement of the obligations under this provision, or enforcement of any judgment and collection hereunder) 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, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment~~ Contractor's obligation for payment hereunder shall survive termination of the Contract.
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§ 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. The Contractor shall continue to prosecute that portion of its Work that has not been suspended, delayed, or interrupted, and shall properly protect and secure the portion of its Work so suspended, delayed or interrupted.

§ 14.3.2 The Contract ~~Sum and the 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~~ 14.3.1, it being expressly agreed that the Owner shall incur no liability to Contractor by reason of such suspension, delay, or interruption except that Contractor may request an extension of the Contract Time to complete its Work pursuant and subject to all applicable terms of this Contract. Notwithstanding the preceding, no adjustment to the Contract Time 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 this ~~Contract.~~Contract; or

.3 Contractor waives its right to an adjustment by operation of any other provision of the Contract Documents.

...

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. Termination shall be effective immediately upon delivery of Owner's written notice to Contractor unless specified otherwise by Owner in writing in such notice.

...

.3 except for Work directed to be performed prior to the effective date of termination or for subcontracts for which Owner accepts assignment as provided in the Contract Documents as 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.~~
If the Contract is terminated for Owner's convenience, the Owner shall not be liable to the Contractor by reason of such termination except that the Contractor shall be entitled to payment for the Work it has previously and properly executed prior to the effective date of termination but not yet been paid (including reasonable overhead and profit only on such Work previously and properly executed but not yet been paid) with the basis for such payment only as provided

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in the Contract Documents. It is agreed and understood that Owner shall incur no other liability to Contractor by reason of such termination for convenience, with it being further agreed and understood that the Owner shall not be responsible for or required to pay Contractor for any other costs or damages, including, without limitation, costs or damages for loss of anticipated overhead and/or profit on Work not performed on account of any termination described in this Section 14.4 and its subsections.

...

§ 15.1.1 Definition. A ~~Claim~~ "Claim" is a demand or assertion by one of the ~~parties~~ 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~~ or recover any damages, including, without limitation, Liquidated Delay Damages, in accordance with the Contract Documents.

§ 15.1.2 ~~Time Limits on Claims~~Time Limits and Other Requirements on Contractor's Claims and Notices of Claims and Causes of Action

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~~ action, including, without limitation, that it shall comply with all notice requirements and all applicable time periods for the delivery or giving of all notices and commencement of all Claims and causes of action, as specified by and in strict accordance with both all requirements in the Contract Documents and applicable law, whether such Claims are in contract, tort, or otherwise. The Contractor expressly waives all Claims and causes of action ~~not commenced in accordance with this Section 15.1.2.~~that are not in full compliance with and/or not commenced in accordance with this section. Notwithstanding anything herein or elsewhere in the Contract Documents to the contrary, Contractor shall strictly comply with New York State Education Law §3813.

§ 15.1.3 Contractor's Initial Notice of Claims

Notwithstanding anything to the contrary elsewhere in the Contract Documents, it shall be an express condition precedent to Contractor's ability to pursue any Claims (other than Claims that are solely for an extension of the Contract Time, which are governed by §8.3.2 (and its subsections) of this A232-2019, as modified) that each Claim by the Contractor must be initiated by delivery of written notice to the Owner, with a copy sent to the Construction Manager and Architect, in strict compliance with the requirements of this Section 5.1.3 within ten (10) days after occurrence of the event(s) giving rise to such Claim or within ten (10) days after the Contractor first should have recognized the condition(s) (occurrence of the event(s)) giving rise to the Claim, whichever is later. So that the Owner can properly investigate the Claim and mitigate the effects thereof, TIME IS EXPRESSLY OF THE ESSENCE WITH RESPECT TO CONTRACTOR'S GIVING OF THIS INITIAL NOTICE OF CLAIM TO OWNER WITH THE INFORMATION AS PROVIDED HEREIN AS AN EXPRESS CONDITION PRECEDENT TO ITS ABILITY TO ASSERT OR OTHERWISE PURSUE ANY CLAIM. The initial notice of Claim shall set forth: (1) the reasons for which the Contractor believes additional compensation (increase in Contract Sum) will or may be due and if the Contract Time should be extended; (2) the nature of the costs involved; (3) the Contractor's plan for mitigating such costs; and (4) if ascertainable, the amount of the potential Claim. For any Claim initiated after the time limit set forth in this Section 15.1.3 or otherwise not in compliance with the information required by this Section 15.1.3, Contractor shall be deemed to have expressly waived any such Claim and shall forfeit any rights that it may have pursuant to this Contract or in law or equity to ever assert or otherwise pursue such Claim. The requirements of this Section are without limitation and in addition to Contractor's additional express obligation to strictly comply with New York State Education Law §3813 and any other applicable law with regard to any Contractor Claims, potential claims, right to claim, or causes of action.

~~**§ 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 Construction Manager and 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.~~

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~~§ 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.~~

§ 15.1.4.1 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. It is understood that a violation of this provision by Contractor shall cause irreparable harm to the Owner.

~~§ 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.~~

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§ 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.~~and required by Article 8 (including §8.3.2 and its subsections) of these General Conditions (A232-2019, as modified) shall be given.

~~§ 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~~ **Limited Waiver of Claims for Consequential Damages.** The Owner and Contractor agree to waive consequential damages that may arise out of or relate to Claims by either of them against the other relating to this Contract to the limited extent provided herein. On behalf of the Owner, this waiver is expressly limited to include only the Owner's loss of income, profit or financing, loss of business, loss of reputation, or insolvency, and shall include no other damages however defined or characterized. Notwithstanding the preceding or anything in this Section 15.1.7 to the contrary, as to the Owner, the limited waiver provided herein shall not apply to and expressly excludes, regardless of type, kind, or characterization: (i) any damages or losses that may be recovered from any insurance maintained by Contractor or any of its Subcontractors; (ii) without limitation to the preceding, any damages or losses arising out of or relating to any claims, including claims by third parties, arising out of or relating to property damage, bodily injury or death; (iii) building management costs; (iv) temporary storage and dislocation costs; and (v) costs related to the disruption to or relocation of Owner's personnel, academic and other departments, including equipment and machinery, affected in the event of the Owner's inability to occupy all or part of the property of the Project; all of which shall remain recoverable by all other terms of the Contract and expressly reserved notwithstanding this Section 15.1.7. On behalf of Contractor, this waiver includes, but is not limited to, 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.~~

~~This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained~~ loss of business, loss of financing, loss of profits both related and not related to this Contract and/or Project, loss of bonding capacity, loss of reputation, and/or insolvency. The limited waivers provided herein shall also apply to consequential damages arising out of or related to the termination of this Contract pursuant to the provisions of Article 14 and shall survive such termination. Nothing in this Section 15.1.7

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shall be deemed to preclude ~~assessment of liquidated damages,~~ or supplant the assessment of Liquidated Delay Damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 ~~Initial Decision~~The Construction Manager, Architect and/or the Owner may, but are not obligated to, notify the Surety, of the nature and/or estimated amount of any Claim that the Owner or others may have against Contractor. If such a Claim relates to a possibility of Contractor's default/termination, the Construction Manager, Architect and/or Owner may, but are not obligated to, notify the Surety and request the Surety's assistance in resolving the controversy.

~~§ 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, the Construction Manager, 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.~~

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§ 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 of 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

§ 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.

§ 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.

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~~§ 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~~

§ 15.3 Litigation. See Agreement (A132 – 2019 as modified), Article 6.

~~§ 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 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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_____

(Signed)

_____

(Title)

_____

(Dated)

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SECTION 007343–WAGE RATE REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Wage rates shall apply as shown in the Prevailing Wage Schedule prepared by the New York State Department of Labor for this project (the Prevailing Wage Case Number (PRC#) assigned to this project is 2023000222). The Schedule can be viewed at the following web site:

https://apps.labor.ny.gov/wpp/publicViewProject.do?method=showIt&id=1543319

Upon award of the Contract to the successful bidder, a hard copy of the Schedule will be provided.

B. The Contractor shall be responsible for completing one copy of Notice of Contract Award (Form PW-16). Upon completion of the form, the Contractor shall submit the form to the Architect. Architect will forward a copy to the New York State Department of Labor.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 007343

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:
1. Project information.
2. Work covered by Contract Documents.
3. Multiple work packages.
4. Access to site.
5. Work restrictions.
6. Coordination with occupants.
7. Phased construction.
8. Work under separate contracts.
9. Work by Owner.
10. Owner-furnished products.
11. Miscellaneous provisions.
12. Specification and drawing conventions.

B. Related Sections:
1. Division 00 Section “Preliminary Schedules” for anticipated project construction schedule.
2. Division 01 Section “Multiple Contract Summary” for work under separate contracts.
3. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.02 PROJECT INFORMATION

A. Project Identification: **SOUTH ORANGETOWN CSD 2022 BOND PROJECT – PHASE 1**
1. William O. Schaefer Elementary: SED#50-03-01-06-0-012-019
   a. 140 Lester Drive, Tappan, NY 10983
2. Cottage Lane Elementary: SED#50-03-01-06-0-010-022
   a. 120 Cottage Lane, Blauvelt NY 10913
3. Tappan Zee High School: SED#50-03-01-06-0-006-032
   a. 15 Dutch Hill Road, Orangeburg, NY 10962
4. William O. Schaefer Sound & Lockdown: SED#50-03-01-06-0-012-020
   a. 140 Lester Drive, Tappan, NY 10983
5. Cottage Lane Sound & Lockdown: SED#50-03-01-06-0-010-023
   a. 120 Cottage Lane, Blauvelt NY 10913
6. Cottage Lane Library Sound & Lockdown: SED#50-03-01-06-8-023-002
   a. 120 Cottage Lane, Blauvelt NY 10913
7. WOS Outdoor Classroom: SED#50-03-01-06-7-053-001
   a. 140 Lester Drive, Tappan, NY 10983
8. CLE Outdoor Classroom: SED#50-03-01-06-7-054-001
   a. 120 Cottage Lane, Blauvelt NY 10913
9. SOMS Outdoor Classroom: SED#50-03-01-06-7-056-001
   a. 160 Van Wyck Road, Blauvelt NY 10913
10. TZHS Outdoor Classroom: SED#50-03-01-06-7-055-001
   a. 15 Dutch Hill Road, Orangeburg, NY 10962

B. Owner: **South Orangetown Central School District**;160 Van Wyck Road, Blauvelt, NY 10913
1. Owner's Representative: Gregory Kern, Director of Finance and Operations**;**(845) 680-1005 gkern@socsd.org

C. Architect: CPL, 50 Front Street, Suite 202, Newburgh, New York 12550
   1. Contact Person: Lisa Fasciglione
   2. Telephone Number: (845)522-5796
   3. Email: LJFasciglione@cplteam.com

D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:
   1. **Technology Consultant:**
   a. **ECC TECHNOLOGIES; Penfeild NY, , www.ecctechnologies.com**
   b. **(585) 377-1850**

E. Construction Manager: The Palombo Group, Inc**,** PO Box 4976, 22 Noxon St., Poughkeepsie, NY 12601
   1. Construction Manager has been engaged for this Project to serve as an advisor to Owner and to provide assistance in administering the Contract for Construction between Owner and each Contractor, according to a separate contract between Owner and Construction Manager.

F. Submittal Web Site: The Architect requires the use of Newforma Info Exchange for delivery and return of submittals, shop drawings and requests for information. There are no exceptions to this requirement. See Section 013100 "Project Management and Coordination" for requirements for administering and using the Project Website.

1.03 DEFINITIONS

A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.04 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of the Project is defined by the Contract Documents and consists of the following: Work consists of but is not limited to the upgrades to the HVAC and electrical systems, abatement work, ceiling and soffit work, door and hardware upgrades, interior and exterior finishes, sitework, the construction of four (4) new open exterior classrooms (one per school). as noted in the drawings and Specifications.

B. Type of Contract:
   1. Project will be constructed under five (5) coordinated, concurrent multiple contracts. See Division 01 Section "Multiple Contract Summary" for a description of work included under each of the multiple contracts.

C. Before commencing Work of each phase, submit an updated copy of the Contractor's Construction Schedule showing the sequence, commencement, and completion dates, (and move-out and -in dates of Owner's personnel) for all phases of the Work.

D. Representation at all job progress meetings is a contractual requirement.

1.05 ACCESS TO SITE

A. General: Contractors shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated unless expressly indicated otherwise.
   1. Limits: Limit site disturbance, including earthwork and clearing of vegetation, to 10 feet beyond building perimeter; 10 feet beyond surface walkways, patios, surface parking, and utilities less than 12 inches in diameter; 15 feet beyond primary roadway curbs and main utility branch trenches; and 25 feet beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities,

and playing fields) that require additional staging areas in order to limit compaction in the constructed area.

2. Driveways, Walkways and Entrances: Keep driveways, parking garage, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
   a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
   b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.06 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.
   1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 3:30 p.m., Monday through Saturday, except as otherwise indicated. This project requires a SIX-day work week MONDAY through SATURDAY, by all trades.
   1. School Vacations and Holidays: Work will occur as approved.
   2. Weekend Hours: Saturday is to be a regularly scheduled workday. Sunday and Holidays by arrangement with the district and the construction manager.
   3. Hours for Utility Shutdowns: Only on weekends, holidays, and school vacations as approved.
   4. Hours for Noisy Activity: For core drilling, powder-activated fasteners, and other disruptive activities, 3:30 p.m. to 11:00 p.m, or as otherwise approved.
   5. Special Events: The Owner will provide dates and times of special events that will restrict construction operations.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
   1. Notify Palombo Group, Inc not less than five (5) days in advance of proposed utility interruptions.
   2. Obtain Construction Manager’s written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
   1. Notify Palombo Group, Inc not less than five (5) days in advance of proposed disruptive operations.
   2. Obtain Construction Manager’s written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking and other tobacco use, including chewing and vaping, is not permitted within any district building or grounds.

1.07 COORDINATION WITH OCCUPANTS

A. **Partial Owner Occupancy**: Owner will occupy the premises during the entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. **Owner Limited Occupancy** of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.08 WORK PERFORMED BY THE OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

B. Concurrent Work: Owner will perform the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
1. The district will have work being performed by themselves and cooperative contractors. This includes but is not limited to a renovation of the nurse’s suite at SOMS.

1.09 OWNER-FURNISHED/CONTRACTOR-INSTALLED (OFCI) PRODUCTS

A. Owner's Responsibilities: Owner will furnish products indicated and perform the following, as applicable:
1. Provide for delivery of Owner-furnished products to Project site.
2. Upon delivery, inspect, with Contractor present, delivered items.
   a. If Owner-furnished products are damaged, defective, or missing, arrange for replacement.
3. Inform Contractor of earliest available delivery date for Owner-furnished products.

B. Contractor's Responsibilities: The Work includes the following, as applicable:
1. Receive, unload, handle, store, protect, and install Owner-furnished products.
2. Repair or replace Owner-furnished products damaged following receipt.

C. Owner-Furnished/Contractor-Installed (OFCI) Products:
1. Prefabricated outdoor pavilions.
2. Bathroom Accessories including soap, sanitary napkin, deodorizer, and toilet paper dispensers.
3. Certain doors, frames and hardware as listed in the schedules.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
3. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
4. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:

B. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
1. Abbreviations: Materials and products are identified by abbreviations (published as part of the U.S. National CAD Standard) (and) scheduled on Drawings.
2. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.11 SCOPE-PHASING

A. WOS (Refer to attached Phasing Plans - Must be printed in color)
1. Spring/Summer 2024- roof curbs, new nurses' office. Areas A, B & C- abatement, new HVAC, new doors, sinks, casework, flooring, and ceilings. New Outdoor classroom.
2. Summer 2025- Abatement Areas D, E, & F. New HVAC, doors, flooring, soffits, casework and ceilings
3. 2024-2025- Sound and Lockdown work

B. TZHS- Summer 2024- New Outdoor Classroom, bleacher relocation work and gymnasium visual display board work.

C. SOMS- Summer 2024- New Outdoor Classroom

D. CLES (Refer to attached Phasing Plans - Must be printed in color)
1. Spring/Summer 2024- roof curbs, Areas A & B & F- new HVAC, Main Office work, doors, casework, flooring, ceilings and soffits, sinks. New Outdoor classroom and entry canopy.
2. Summer 2025- abatement, Areas C, D, & E – new HVAC, doors, casework, soffits, ceilings.
3. 2024-2025- Sound & Lockdown work

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 1200
MULTIPLE CONTRACT SUMMARY

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.

B. Specific requirements of each contract are also indicated in individual Specification Sections and on Drawings.

C. Related Sections include the following:
   1. Division 01 Section "Summary" for the Work covered by the Contract Documents, restrictions on use of the premises, Owner-occupancy requirements, and work restrictions.
   2. Division 01 Section "Project Management and Coordination" for general coordination requirements.
   3. Division 01 Section "Temporary Facilities and Controls" for specific requirements for temporary facilities and controls.

1.02 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.03 PROJECT COORDINATOR

A. Project Coordinator shall be responsible for coordination between the General Construction Contract, Plumbing Contract, Mechanical Contract, and Electrical Contract
   1. Construction Manager shall act as Project Coordinator.

1.04 GENERAL REQUIREMENTS OF CONTRACTS

A. Extent of Contract: Unless the Agreement contains 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. This project requires all contractors to work a SIX-day week, Monday through Saturday.
   3. 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.
   4. All contractors are responsible for the removal and reinstallation of ceilings where work must be installed above a ceiling not scheduled for removal.
   5. Concrete floor cutting and removal is the work of the General Construction Contractor. Trenching and backfill for the Work of each contract shall be provided by each contract for its own Work unless otherwise called out.
   6. Cutting and Patching: Provided by each contract for its own Work, unless otherwise called out. Concrete floor patching is the work of the General Construction Contractor.
   7. Through-penetration firestopping for the Work of each contract shall be provided by each contract for its own Work.
   8. Roof-mounted equipment curbs shall be provided by each contract for its own work. The General Construction Contract shall install.

9. Within five working days after preliminary horizontal bar-chart-type construction schedule submittal has been received from Project Coordinator, submit a matching preliminary horizontal bar-chart schedule showing construction operations sequenced and coordinated with overall construction.
10. Project closeout requirements.
11. Each Contractor shall review the facility asbestos report to become familiar with any materials that may contain asbestos. If the contractor encounters materials that have not been tested for asbestos, he shall cease work and contact the Palombo Group, Inc**.** The Contractor will be held responsible for clean-up costs if they continue to remove materials that have not been tested for asbestos.
12. The Owner has implemented an employee verification program. All contractors are required to submit a photo along with the name and address of each employee that will work on district property at least 3 days prior to commencing work.

B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the Work.
   1. Project Coordinator shall coordinate substitutions.

C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Division 01 Section "Temporary Facilities and Controls," each contractor is responsible for the following:
   1. 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.
   2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
   3. Its own field office, complete with necessary furniture, utilities, and telephone service.
   4. Its own storage and fabrication sheds.
   5. Its own dust protection to control dust where dust partitions are not scheduled or shown on the drawings but are necessary to protect the building from dust contamination.
   6. Temporary enclosures for its own construction activities.
   7. Staging and scaffolding for its own construction activities.
   8. General hoisting facilities for its own construction activities, up to 2 tons.
   9. Waste disposal, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
   10. Daily Progress Cleaning of its own areas and dust/debris daily. This includes daily sweeping.
   11. Secure lockup of its own tools, materials, and equipment.
   12. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
   13. Temporary heat to protect to install and protect the work is place where scheduled temporary heat is not in place or not called for in the contract documents.
   14. Provide temporary electric generators where scheduled permanent power or temporary power is not in place.

D. Temporary Heating, Cooling, and Ventilation: The General Construction Contract is responsible for temporary heating, cooling, and ventilation, including utility-use charges, temporary meters, and temporary connections.

E. Temporary ventilation: Each Contractor is to control fumes from construction operations including interior panting and “off gassing” of new finish materials.

1.05 GENERAL CONSTRUCTION CONTRACT

A. Work in the General Construction Contract includes, but is not limited to, the following:
   1. Remaining work not identified as work under other contracts.

2. Site preparation, including clearing, building demolition and relocations, and earthwork. This includes excavation backfill and compaction for structures.
3. Site improvements, including roadways, parking lots, pedestrian paving, seeding, and landscaping.
4. Foundations, including footings, foundation and retaining walls for Site related components**.** All concrete walks, ramps, stairs including earthwork.
5. Selective demolition.as shown on the drawings.
6. Shoring bracing and underpinning related to the General Construction work.
7. Slabs-on-grade, including earthwork, subdrainage systems, and insulation.
8. Below-grade building construction, including excavation, backfill, and thermal and moisture protection.
9. Roofing, including blocking, insulation, coverings, portals, and flashings.
10. Interior construction, including partitions, doors, hardware, interior glazed openings, and fittings. acoustic ceilings, soffits, and ceiling modifications. Provide an additional 10% by area of new acoustic ceiling tile to match.
11. Exterior construction, including pavilions, walks, ramps, stairs, and railings.
12. Fire-protection specialties.
13. Interior finishes, finish carpentry and built-in casework.
14. Professional cleaning upon substantial completion includes furniture cleaning/dusting, window washing, vacuuming of carpeting, stripping and waxing of flooring in all areas affected by this Capital Project. Substantial completion dates are shown in the Milestone Schedule.

B. Temporary facilities and controls in the General Construction Contract include, but are not limited to, the following:
   1. Temporary facilities and controls that are not otherwise specifically assigned to the Plumbing Contract, Mechanical Contract or Electrical Contract.
   2. Sediment and erosion control.
   3. Unpiped sewers and drainage, including drainage ditches, dry wells, stabilization ponds, and containers.
   4. Storm water control.
   5. Unpiped temporary toilet fixtures, wash facilities, including disposable supplies.
   6. Temporary enclosure for building exterior, except as indicated.
   7. Temporary roads and paved areas.
   8. Dewatering facilities and drains.
   9. Excavation support and protection, unless required solely for the Work of another contract.
   10. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
   11. General waste disposal facilities.
   12. Temporary stairs.
   13. Temporary fire-protection equipment.
   14. Installation of temporary floors, doors as required
   15. Site enclosure fence, barricades, warning signs.
   16. Covered walkways.
   17. Security enclosure and lockup.
   18. Environmental protection.
   19. Restoration of Owner's existing facilities used as temporary facilities.

C. Work in the General Construction Contract includes, but is not limited to, the work included in each of the following:

1. Division 00 “Procurement and Contracting Requirements” as it pertains to Work of this Contract.
2. Division 01 “General Requirements” as it pertains to Work of this Contract.
3. Division 2 “Existing Conditions”
4. Division 3 “Concrete.”
5. Division 4 “Masonry.”
6. Division 5 “Metals.”
7. Division 6 “Wood, Plastics, and Composites.”
8. Division 7 “Thermal and Moisture Protection”
9. Division 8 “Openings”
10. Division 9 “Finishes,”
11. Division 10 “Specialties.”
12. Division 11 “Equipment.”
13. Division 12 “Furnishings.”
14. Division 31 “Earthwork.”
15. Division 32 “Exterior Improvements.”

D. Work in the General Construction Contract includes, but is not limited to, the work included in each of the following Drawings.
1. **All Prefix “U” Drawings**
2. **All Prefix “C” Drawings**
3. **All Prefix "S” Drawings**
4. **All Prefix “A” Drawings**
5. All references to other drawings from drawings listed above.

1.06 MECHANICAL CONTRACT

A. Work of the HVAC Contract includes, but is not limited to, the following:
1. Removal and salvage of existing acoustic ceilings as shown in the drawings. Replacement of salvaged ceiling tiles in affected areas. Provide an additional 10 % by area of new acoustic ceiling tile to match.
2. Demolition of existing systems as shown in the drawings.
3. Site hydronic distribution.
4. HVAC systems and equipment.
5. HVAC instrumentation and controls.
6. HVAC testing, adjusting, and balancing.

B. Work in the Mechanical Contract includes, but is not limited to, the following:
1. Division 00 “Procurement and Contracting Requirements” as it pertains to Work of this Contract.
2. Division 01 “General Requirements” as it pertains to Work of this Contract.
3. Section 024119 “Selective Structure Demolition” for shutoff of utilities or removal of equipment and fixtures where indicated.
4. Section 078413 “Penetration Firestopping.”
5. Section 083113 “Access Doors and Frames” for furnishing of access doors where required for installation by others.
6. Section 099123 “Interior Painting” for painting of pipes and ducts for identification where indicated.
7. Division 23 “Heating Ventilating and Air Conditioning” except for the following Sections:

C. Work in the Mechanical Construction Contract includes, but is not limited to, the work included in each of the following Drawings.
1. **All Prefix “A” Drawings**
2. **All Prefix “U” Drawings**

3. **All Prefix "H" Drawings**

1.07 PLUMBING CONTRACT

A. Work of the Plumbing Contract includes, but is not limited to, the following:
   1. Demolition of the existing systems as shown in the drawings.
   2. Domestic water supply and distribution.
   3. Piped sanitary sewerage.
   4. Plumbing fixtures and drinking fountains
   5. Plumbing connections to existing systems and temporary facilities and controls furnished by the General Construction Contract.

B. Work in the Plumbing Contract includes, but is not limited to, the following:
   1. Division 00 "Procurement and Contracting Requirements" as it pertains to Work of this Contract.
   2. Division 01 "General Requirements" as it pertains to Work of this Contract.
   3. Section 024119 "Selective Structure Demolition" for shutoff of utilities where indicated.
   4. Section 078413 "Penetration Firestopping."
   5. Section 083113 "Access Doors and Frames" for furnishing of access doors where required for installation by others.
   6. Section 099123 "Interior Painting" for painting of pipes for identification where indicated.
   7. Division 22 "Plumbing."

C. Temporary facilities and controls in the Plumbing Contract include, but are not limited to, the following:
   1. Piped sewerage and drainage.
   2. Piped gas service.
   3. Piped water service.
   4. Piped temporary toilet fixtures, wash facilities, and drinking water facilities.
   5. Plumbing connections to existing systems and temporary facilities and controls furnished by the General Construction Contract.

D. Work in the Plumbing Construction Contract includes, but is not limited to, the work included in each of the following Drawings.
   1. **All Prefix "A" Drawings**
   2. **All Prefix "P" Drawings**
   3. All references to other drawings from drawings listed above.

1.08 HAZARDOUS MATERIALS CONTRACT

A. Work in the Hazardous Materials Contract includes, but is not limited to :
   1. Division 00 "Procurement and Contracting Requirements as it pertains to the Work of this contract.
   2. Division 01 General Requirements" as it pertains to the work of this contract.
   3. Division 02 "Existing Conditions" as it pertains to the work of this contract.

B. Temporary facilities and controls in the Hazardous Materials contract include, but are not limited to:
   1. Temporary hard wall and soft wall barriers required by AHJ. Multiple barriers and containment walls are to be installed and moved per the Phasing Plans

C. Work in the Hazardous Materials Contract includes, but is not limited to the work included in each of the following Drawings:
   1. **All Prefix "U" Drawings**
   2. **All Prefix HZ Drawings**

1.09 ELECTRICAL CONTRACT

A. Work in the Electrical Contract includes, but is not limited to, the following:
   1. Removal and salvage of existing ceiling tile as shown in the drawings. Reinstall all salvaged tiles upon completion of work.
   2. Demolition of existing systems as shown in the drawings.
   3. All Sound and Lockdown work as shown in the drawings.
   4. All power, data, and fire alarm work as shown in the drawings.
   5. Powering all devices and equipment supplied by other Primes requiring power.

B. Work in the Electrical Contract includes, but is not limited to the following:
   1. Division 00 “Procurement and Contracting Requirements” as it pertains to Work of this Contract.
   2. Division 01 “General Requirements” as it pertains to Work of this Contract.
   3. Section 024119 “Selective Structure Demolition” for shutoff of utilities or removal of equipment and fixtures where indicated.
   4. Division 3 “Concrete.” as it pertains to Work of this Contract.
   5. Division 9 specifically exterior painting as it pertains to this work.
   6. Division 26 “Electrical.”
   7. Division 28 Conductors and Cables for Electronic Safety & Security
   8. Division 33 “Utilities” Sections as pertain to this work.

C. Temporary facilities and controls in the Electrical Contract include, but are not limited to, the following:
   1. Electric power service and distribution.
   2. Lighting, including site lighting.
   3. Electrical connections to existing systems and temporary facilities and controls furnished by the General Construction, Mechanical, or Plumbing Contractor(s).
   4. Energizing and de-energizing temporary panels for the Hazardous Materials contractor, as needed.

D. Work in the Electrical Construction Contract includes, but is not limited to, the work included in each of the following Drawings.
   1. **All Prefix “A” Drawings**
   2. **All Prefix “U” Drawings**
   3. **All Prefix “E” Drawings**
   4. All references to other drawings from drawings listed above.

1.10

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 012100
ALLOWANCES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to the Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Contingency allowances.

C. Related Sections:

1. Section 012200 - Unit Prices: Procedures for using unit prices.

1.2 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.3 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work.

1.6 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, for work ordered by Owner under the contingency allowance is included in the Contract Sum and is not part of the Allowance.

C. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.2 SCHEDULE OF ALLOWANCES

3.3 HAZARDOUS MATERIALS REMOVAL SCHEDULE OF ALLOWANCES

A. HM- 01 ; Contingency Allowance: Include in the Base Bid an Allowance of $ 25,000 for use according to the Owners instructions.

1. Contractor overhead and profit is provided in Base Bid.

3.4 GENERAL CONSTRUCTION SCHEDULE OF ALLOWANCES

A. GC- 01 ; Contingency Allowance: Include in the Base Bid an Allowance of $ 200,000 for use according to the Owners instructions.

1. Contractor overhead and profit is provided in Base Bid.

3.5 MECHANICAL CONSTRUCTION SCHEDULE OF ALLOWANCES

A. MC- 01 ; Contingency Allowance: Include in the Base Bid an Allowance of $ 250,000 for use according to the Owners instructions.

1. Contractor overhead and profit is provided in Base Bid.

3.6 PLUMBING CONSTRUCTION SCHEDULE OF ALLOWANCES

A. PC- 01 ; Contingency Allowance: Include in the Base Bid an Allowance of $ 35,000 for use according to the Owners instructions.

1. Contractor overhead and profit is provided in Base Bid.

3.7 ELECTRICAL CONSTRUCTION SCHEDULE OF ALLOWANCES

A. EC- 01 ; Contingency Allowance: Include in the Base Bid an Allowance of $ 160,000 for use according to the Owners instructions.

1. Contractor overhead and profit is provided in Base Bid.

END OF SECTION

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SECTION 012200
UNIT PRICES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Sections:
   1. Section 012600 - Contract Modification Procedures: Procedures for submitting and handling Change Orders.
   2. Section 012100 - Allowances: Procedures for using Unit Prices with Allowances.

1.2 DEFINITIONS

A. Unit price is a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: Refer to individual Specification Sections indicated in the "Schedule of Unit Prices" for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. GENERAL CONSTRUCTION
   1. Unit Price No. GC-1: Ceiling Tile
      a. Description: Labor to remove ceiling tile and install new from attic stock, purchased through base bid.
      b. Unit of Measurement: Per 4 Square Feet of ceiling tile

B. MECHANICAL CONSTRUCTION
   1. Unit Price No. MC-1: Ceiling Tile
      a. Description: Labor to remove ceiling tile and install new from attic stock, purchased through base bid.
      b. Unit of Measurement: Per 4 Square Feet of ceiling tile

C. HAZARDOUS MATERIALS ABATEMENT

1. Unit Price No. HZ-1: Abatement of Asbestos containing Pipe Fittings
   a. Description: Provide all labor, materials and equipment neccessary, including tents to remove pipe fittings.
   b. Unit of Measurement: Per fitting
2. Unit Price No. HZ-2: Abatement of Asbestos containing Pipe Insulation
   a. Description: Provide all labor, materials and equipment neccessary, including tents to remove linear pipe insulation.
   b. Unit of Measurement: Per Linear Foot
3. Unit Price No. HZ-3: Abatement of VAT flooring
   a. Description: Provide all labor, materials and equipment neccessary, including tents to remove VAT flooring.
   b. Unit of Measurement: Per Square Foot

END OF SECTION

SECTION 012300
ALTERNATES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to, or deducted from, the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
   2. The cost or credit for each alternate is the net addition to, or deduction from, the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   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 indicated as part of alternate.

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

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. GENERAL CONSTRUCTION WORK
   1. Alternate No. GC- 01: WOS Casework Infill.
      a. Base Bid: No work required.
      b. Alternate Bid: Provide blocking as req'd to support casework. Casework provided and installed by others., as indicated on drawings and as specified.
   2. Alternate No. GC-02: CLE Casework Infill.
      a. Base Bid: No work required.
      b. Alternate Bid: Provide blocking as req'd to support casework. Casework provided and installed by others, as indicated on drawings and as specified.
   3. Alternate No. GC-03: WOS Teaching Wall Casework.
      a. Base Bid: No work required.

b. Alternate Bid: Provide blocking as req'd to support casework. Casework provided and installed by others, as indicated on drawings and as specified.

4. Alternate No. GC-04: WOS Window Wall Casework.
   a. Base Bid: No work required.
   b. Alternate Bid: Provide blocking as req'd to support casework. Casework provided and installed by others, as indicated on drawings and as specified.
5. Alternate No. GC-05: CLE Storage Closets.
   a. Base Bid: No work.
   b. Alternate Bid: New storage closets 300D & 300E, including but not limited to: new stud walls, doors, ceiling and finishes, as indicated on drawings CLE A102, A202, I201.
6. Alternate No. GC-06: Flooring
   a. Base Bid: Provide VCT Flooring as indicated on I-series Drawings
   b. Alternate Bid: Provide RT Flooring as indicated on I-series Drawings

B. MECHANICAL CONSTRUCTION WORK
1. Alternate No. MC- 01: Controls.
   a. Base Bid: Provide controls and new head end for the new equipment., as indicated on drawing H500's and as specified in Section 230913, 230923.
   b. Alternate Bid: Provide new full building controls and all associated components to have a new head end and fully operational system. Provide controls to all existing to remain equipment., as indicated on drawing H500's and as specified in Section 230913, 230923.
2. Alternate No. MC-02: WOS Fin Tube Covers.
   a. Base Bid: Provide fintube covers for piping where unit ventilators were removed, as indicated on drawings and as specified.
   b. Alternate Bid: Omit fintube covers from the bid in locations called out on the plans.
3. Alternate No. MC-03: CLE Fin Tube Covers.
   a. Base Bid: Provide fintube covers for piping where unit ventilators were removed, as indicated on drawings and as specified.
   b. Alternate Bid: Omit fintube covers from the bid in locations called out on the plans.

C. ELECTRICAL CONSTRUCTION WORK
1. Alternate No. EC- 01: CLE Storage Closets.
   a. Base Bid: No work required.
   b. Alternate Bid: Disconnect and remove existing light fixtures and switches. Provide new LED light fixtures and switching., as indicated on drawing E104 & E304.
2. Alternate No. EC-02: CLE Data Cabling
   a. Base Bid: No work.
   b. Alternate Bid: Provide all material and labor for the installation of all work described in Specifications Sections: 270528, 271000, 271100, 271500, 271701 and shown on CLE T-series Drawings.
3. Alternate No. EC-03: WOS Data Cabling
   a. Base Bid: No work.
   b. Alternate Bid: Provide all material and labor for the installation of all work described in Specifications Sections: 270528, 271000, 271100, 271500, 271701 and shown on WOS T-series Drawings.

END OF SECTION

SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 GENERAL

A. Should the Contractor desire to substitute other articles, materials, apparatus, products or processes than those specified or approved as equal, the Contractor shall apply to the Architect in writing for approval of such substitution. It should be noted that the bid shall not be based on a substituted article, material, apparatus, product or process. With the application shall be furnished such information as required by the Architect to demonstrate that the article, material, apparatus, product or process he wishes to use is the equivalent of that specified in quality, finish, design, efficiency and durability and has been elsewhere demonstrated to be equally serviceable for the purpose for which it is intended. The Contractor shall set forth the reasons for desiring to make the substitution and shall further state what difference, if any, will be made in the construction schedule and the contract price for such substitution should it be accepted; it being the intent hereunder that any savings shall accrue to the benefit of the Owner.

B. The Architect shall reject any such desired substitution as not being specifically named in the contract, or if he shall determine that the adjustment in price in favor of the Owner is insufficient, the Contractor shall immediately proceed to furnish the designated article, material, apparatus, product or process.

C. Request for substitutes shall conform to the requirements of this Article.

D. Requests for substitutions shall, include full information concerning differences in cost, and any savings in cost resulting from such substitutions shall be passed on to the Owner.

E. Requests for utilization of substitutes will be reviewed during the course of the project. The impact on the project and the timeliness of submission will be of key consideration.

F. The approval of utilization of a substitute is subject to the sole and final discretion of the Architect.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:

1. Section 012100 - Allowances: Products selected under an allowance.
2. Section 012300 - Alternates: Products selected under an alternate.
3. Section 013300 - Submittal Procedures: For submittal procedures.

4. Section 016000 - Product Requirements: Requirements for submitting comparable product submittals for products by listed manufacturers.
5. Divisions 02 through 49 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
   1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
   2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

B. Substitute Items (Or Equal): If in Architect/Engineer's sole discretion, an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item it will be considered a proposed substitute item.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:Substitution Request Form: Use the Substitution Request Form bound into section 006000 of this Project Manual.
      a. Statement indicating why specified product or fabrication, or installation cannot be provided, if applicable.
      b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
      c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with current building code in effect for Project, from Building Code of New York State.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
n. See additional requirements in Article 2.3 DETAILED SUBSTITUTION REVIEW PROCEDURES.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within (5) five days of receipt of a request for substitution. Construction Manager will notify Contractor of acceptance or rejection of proposed substitution within (10) ten days of receipt of request, or (5) five days of receipt of additional information or documentation, whichever is later.
   a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
   b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 PRODUCTS

2.1 SUBSTITUTION PROCEDURES (GENERAL)

A. Conditions: After the 'Notice of Award" and prior to the Contractor entering into a Formal Contract with the Owner, the Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

1. Requested substitution is consistent with the Contract Documents and will produce indicated results.
2. Substitution results in substantial cost savings to the Owner or substantial performance improvements.
3. Substitution request is fully documented and properly submitted.
4. Requested substitution will not adversely affect Contractor's construction schedule.
5. Requested substitution has received necessary approvals of authorities having jurisdiction.
6. Requested substitution is compatible with other portions of the Work.
7. Requested substitution has been coordinated with other portions of the Work.
8. Requested substitution provides specified warranty.
9. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
10. The substitution is submitted in compliance with Article 2.3 DETAILED SUBSTITUTION REVIEW PROCEDURES.

B. If the Contractor does not present 'Substitutions" in the time frame noted above any future requests to substitute products will not be considered, unless the substitution is for cause.

C. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

2.2 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than (20) twenty days prior to time required for preparation and review of related submittals.

1. Architect will consider Contractor's request for substitution when the following conditions are present.
    a. The specified product is not available
    b. The specified product cannot be delivered in the time frame required under the Project Schedule.
2. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    b. Substitution request is fully documented and properly submitted.
    c. Requested substitution will not adversely affect Contractor's construction schedule.
    d. Requested substitution has received necessary approvals of authorities having jurisdiction.
    e. Requested substitution is compatible with other portions of the Work.
    f. Requested substitution has been coordinated with other portions of the Work.
    g. Requested substitution provides specified warranty.
    h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Architect will consider requests for substitution if received prior to award of contract and based on the following:

1. The proposed product substitution will result in a significant cost savings to the Owner.
2. The proposed product has substantial performance improvements.
3. The proposed product can be provided much earlier in the schedule enhancing the project completion date.
4. The proposed product warranty is superior to the specified item.

2.3 DETAILED SUBSTITUTION REVIEW PROCEDURES

A. The Architect in addition to the requirements listed above will require compliance with the following requirements and procedures.

1. Requests for approval of substitutions will be received and considered from Prime Contractors only and not from manufacturers, suppliers, Subcontractors, or other third parties.
2. If the materials and equipment submitted are offered as substitutions to the Contract Documents or approved equal, the Contractor shall advise the Owner and the Architect of the requested substitutions and comply with the requirements hereinafter specified in this Article.
3. Where the acceptability of substitution is conditioned upon a record of and the proposed substitution does not fulfill this requirement, the Architect, at the Architect's sole discretion, may accept the substitution if the Contractor provides a bond or cash deposit which guarantees replacement at no cost to the Owner for any failure occurring within a specified time. The substitution item must meet all other technical requirements contained in the Specification.
4. The Contractor shall furnish such information as required by the Architect to demonstrate that the equal article, material, apparatus, product or process is the equivalent of that specified in quality, finish, design, efficiency and durability and has been elsewhere demonstrated to be equally serviceable for the purpose for which it is intended and/or that it offers substantial benefits to the Owner in saving of time and/or cost. The Contractor shall set forth the reasons for desiring to make this substitution.
5. Contractor shall submit:
    a. For each proposed request for approved substitute sufficient details, complete descriptive literature and performance data together with samples of the materials, where feasible, to enable the Architect to determine if the proposed request for approval should be granted, including manufacturer's brand or trade names, model numbers, description of specification of item, performance data, test reports, samples, history of service, and other data as applicable.
    b. Certified tests, where applicable, by an independent laboratory attesting to the performance of the substitute.
    c. A list of installations where the proposed substitute equipment or materials is performing under similar conditions as specified.
    d. A list of installations where the proposed substitute equipment or materials is performing under similar conditions as specified.

6. Where the approval of a substitute requires revision or redesign of any part of Work, including that of other Contracts, all such revision and redesign, and all new drawings and details required therefore, shall be provided by the Contractor at its own cost and expense, and shall be subject to the approval of the Architect.
7. In the event that the Architect is required to provide additional services, then the Architect's charges for such additional services shall be paid by the Contractor to the Owner.
8. Any modifications in the Work required under other contracts to accommodate the changed design will be incorporated in the appropriate contracts and any resulting increases in contract prices will be charged to the Contractor by the Owner who initiated the changed design.
9. In all cases, the Architect shall be the judge as to whether a proposed substitute is to be approved. The Contractor shall be bound by the Architect’s decision. No substitute items shall be used in the Work without written approval of the Architect.
10. In making request for approval of substitute, Contractor represents that:
    a. Contractor has investigated proposed substitute and determined that it is equal to or superior in all respects to the product, manufacturer or method specified or offers other specified advantages to the Owner.
    b. Contractor will provide the same or better warranties or bonds for proposed substitute as for product, manufacturer or method specified.
    c. Contractor waives all claims for additional costs or extension of time related to proposed substitute that subsequently may become apparent.
    d. Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by the Architect in considering a substitute proposed by the Contractor or by reason of failure of the Architect to approve a substitute proposed by the Contractor. Any delays arising out of consideration, approval, or utilization of a substitute shall be the sole responsibility of the Contractor requesting the substitute and it shall arrange its operations to make up the time lost.
11. Proposed substitute will not be accepted if:
    a. Acceptance will require substantial revision of Contract Documents.
    b. Acceptance will substantially change design concepts or Technical Specifications.
    c. Acceptance will delay completion of the Work, or the Work of other Contractors.
    d. If the Substitute item is not accompanied by formal request for approval of substitute from Contractor.
12. The Architect reserves the right to disapprove, for aesthetic reasons, any material or equipment on the basis of design or color considerations alone, without prejudice to the quality of the material or equipment, if the manufacturer cannot meet the required colors or design.

13. All requests for approval of substitutes of materials or other changes from the contract requirements shall be accompanied by an itemized list of all other items affected by such substitution or change. The Architect shall have the right, if such is not done, to rescind any approvals for substitutions and to order such Work removed and replaced with Work conforming to the specified requirements of the contract, all at the Contractor's expense, or to assess all additional costs resulting from the substitution to the Contractor.
14. Approval of a substitute will not relieve Contractor from the requirement to submit Shop Drawings or any of the provisions of the Contract Documents.
15. In the event that the Architect is required to provide additional services as a result of a request for approval of a substitute results in changes by the Contractor in dimension, weight, power requirements, etc., of the equipment and accessories furnished, or as a result of Contractor's errors, omissions or failure to conform to the requirements of the Contract Documents or if the Architect is required to examine and evaluate any changes proposed by the Contractor solely for the convenience of the Contractor, or for evaluation of deviations from Contract Documents, then the Architect's charges in connection with such additional services shall be paid by the Contractor.
16. Structural design shown on the Drawings is based upon the configuration of and maximum loading for major items of equipment as indicated on the Drawings and as specified. If the substituted equipment furnished differs from said features, the Contractor shall pay to the Owner all costs of redesign and for any construction changes required to accommodate the equipment furnished, including the Architect's charges in connection therewith.

B. The Contractor shall respond to required submittals with complete information and with a degree of accuracy to achieve approvals within two (2) submissions. All costs to the Architect involved with subsequent submissions of Shop Drawings, Samples or other items requiring approval, will be paid by the Contractor to the Owner, by deducting such costs from payments due for Work completed. In the event an approved item is requested by the Contractor to be changed or substituted for, all costs involved in the reviewing and approval process will likewise be back charged to the Contractor unless determined by the Architect that the need for such substitution and/or deviation from Contract Documents is beyond the control of the Contractor.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 012519
EQUIVALENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Requirements set forth herein pertain to products specified in divisions included in project manual.

1.2 DEFINITIONS

A. For the purpose of this contract, the words "similar", "equal to", "or equal", "equivalent" and such other words of similar content and meaning, shall be deemed to mean similar and equal to one of named and/or specified products.

B. For the purpose of bidding documents, the word "products" shall be deemed to include the words "articles", "materials", "items", "equipment" and "methods". Whenever in contract documents one or more products are specified, words "similar, equivalent, and equal to" shall be deemed inserted.

1.3 EQUIVALENTS

A. Where, in these specifications or on drawings, 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 Contractor may select one of those items.

B. If Contractor desires to use any kind, type, brand, or manufacturer of material other than those named in specification, he or she may submit the request for approval to the Architect well in advance of the bid date.

C. Requests for approval of proposed equivalents will be received by Architect only from a Prime Contractor.

D. If the Architect approves a proposed equivalent prior to receipt of Bids, such approval will be set forth in an Addendum.

E. After the bid opening the apparent low bidder or bidders will be notified by the Architect or Owner and shall submit to the Architect in writing, within (10) ten calendar days what equivalent kind, type, brand, or manufacture is included in bid in lieu of specified items. No equivalents will be considered after this submission.

F. Contractor shall have burden of proving, at Contractor's own cost and expense, to satisfaction of Owner/Architect, that proposed product is similar and equal to named product. In making such determination Owner/Architect will be sole judge of objective and appearance criteria that proposed product must meet in order for it to be approved.

1. Supporting data on equivalency is responsibility of bidder. For each equivalent to base specification, included in products list, submit information describing in specific detail -
    a. Wherein it differs from quality and performance required by base specification.
    b. Changes required in other elements of work because of equivalent.
    c. Effect on construction schedule.
    d. Any required license fees or royalties.
    e. Availability of maintenance service, and source of replacement materials.
    f. Such other information as may be required by Owner.

G. Owner, through Architect, shall be judge of acceptability of proposed equivalents. Risk of whether bid equivalents will be accepted is borne by Contractor.

1.4 CONTRACTOR'S REPRESENTATION

A. Submission of an equivalent product and/or material constitutes a representation that Contractor:

1. Has investigated proposed product and determined it is equal to or superior in all respects to that specified.
2. Will provide same warranties or bonds for equivalent as for product specified.
3. Will coordinate installation of an accepted equivalent into work and make such other changes as may be required to make work complete in all respects.
4. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.
5. Will provide, at own cost and expense, any different quantity and/or arrangement of ductwork, piping, wiring, conduit or any part of work from that specified, detailed or indicated in Contract Documents if required for proper installation of an approved equivalent.
6. Will provide, at own cost and expense, all such revision and redesign and all new drawings and details required by Architect for approval if proposed equivalent product requires a revision or redesign of any part of work covered by this contract.
7. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:
    a. Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.

b. Copies of current, independent third-party test data of salient product or system characteristics.
c. Samples where applicable or when requested by Architect.
d. Detailed comparison of significant qualities of the proposed substitute with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
e. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
f. Research reports, where applicable, evidencing compliance with building code in effect for Project, from Building Code of New York State.
g. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will become necessary to accommodate the proposed substitute.

8. Provide certification by manufacturer that the substitute proposed is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated.
9. Bidder, in submitting the Procurement Substitution Request, waives the right to additional payment or an extension of Contract Time because of the failure of the substitute to perform as represented in the Procurement Substitution Request.

1.5 EQUIVALENT CERTIFICATION

A. Contractor must sign the "Equivalent Certification Form" following this specification section and deliver it to the Architect along with a complete list of proposed equivalents within ten (10) calendar days after notification from the Architect or Owner. This is mandatory and must be done prior to award of contracts.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

EQUIVALENT CERTIFICATION FORM

Project Name: _____

Project Address: _____

Project No.: _____

REVIEWED MATERIAL:

AIA A701-2018 Instructions to Bidders

AIA A201-2017 or A232(CMa) General Conditions of the Contract

Specification Section: 012519 - Equivalents

Specification Section: 012500 - Substitution Procedures

Specification Section: 016000 - Product Requirements

CHECK THE FOLLOWING THAT APPLIES:

_____ No equivalents are proposed.
_____ Proposed equivalents are attached with supporting data as per Section 012519.

ALL EQUIVALENTS ARE HEREBY PRESENTED TO ARCHITECT AND OWNER FOR APPROVAL. NO FUTURE EQUIVALENTS WILL BE CONSIDERED.

Contractor Signature: _____

Printed Name of Contractor: _____

Date: _____

Signature of Reviewer: _____

Printed Name of Reviewer: _____

Approved as Noted Date: _____

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections:

1. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.2 NO COST CHANGES IN THE WORK

A. Construction Manager will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on the Information Bulletin form bound in section 006000 of this Project Manual.

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Construction Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Construction Manager are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or (10) ten days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.

d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Construction Manager.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.4 ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within (5) five days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than (5) five days after such authorization.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.5 ADMINISTRATIVE CHANGE ORDERS

A. Adjustment from Allowances: Refer to Division 01 Section "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Adjustments from Unit Prices: Refer to Division 01 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit price work.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Construction Manager will issue a Change Order for signatures of Owner and Contractor on the Information Bulletin form bound in section 006000 of this Project Manual.

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Construction Manager may issue a Construction Change Directive on the Information Bulletin form bound ins section 006000 of this Project Manual.

1. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
    a. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

2. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
    a. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 012900
PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections:

1. Division 01 Section "Allowances" for requirements governing the handling and processing of allowances.
2. Division 01 Section "Unit Prices" for requirements governing the use of unit prices.
3. Division 01 Section "Contract Modification Procedures" for procedures for handling changes to the Contract.
4. Division 01 Section "Construction Progress Documentation" for requirements governing the preparation and submittal of the Contractor's construction schedule.
5. Division 01 Section "Submittal Procedures" for requirements governing the preparation and submittal of the submittal schedule.

1.2 SCHEDULE OF VALUES

A. Schedule of Values: Furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

B. Coordination: Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:

1. Application for Payment forms AIA G702 and G703 with continuation sheets.
2. Submittal schedule.
3. Submit the schedule of values to Architect through Construction Manager at earliest possible date but no later than (7) seven days before the date scheduled for submittal of initial Applications for Payment.

C. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values.

1. Identification: Include the following Project identification on the schedule of values:
   a. Project name and location.
   b. Name of Architect and Construction Manager.
   c. Architect's project number.

d. Contractor's name and address.

e. Date of submittal.

2. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
   a. Related Specification Section or Division.
   b. Description of the Work.
   c. Change Orders (numbers) that affect value.
   d. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
      1) Labor.
      2) Materials.
      3) Equipment.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
4. For New York State School facilities projects, each school building shall be separately itemized and detailed.
5. The following line items must be included on the continuation sheet.
   a. Project Bonds and Insurances.
   b. Mobilization.
   c. Shop Drawings.
   d. Project Meetings.
   e. Temporary Heat (where applicable).
   f. Progress Cleaning.
   g. Lawn and Tree Watering (where applicable to establish new lawns and trees).
   h. Punch List.
   i. Final Cleaning.
   j. Close Out documents and Warranties.
6. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
7. Submit draft of AIA Document G703 Continuation Sheets.
8. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Submit Application for Payment to Architect by the last day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment (5) five days prior to due date for review by Architect. (Work to be projected out to the end of the pay period).

C. Application for Payment Forms: Use AIA Documents G702 and G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
4. The OWNER shall retain (5%) five percent of the amount due on each Application for both the work completed and materials stored. The OWNER reserves the right to retain a greater percentage in the event the CONTRACTOR fails to make satisfactory progress or in the event there is other specific cause for greater withholding.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.

F. Provide copies of payroll records (including subcontractors) that are signed and notarized, documenting compliance with prevailing wage requirements.

1. Per New York State Workman's Compensation Board, copies of all payroll records for all out of state contractors shall be retained on the worksite for inspection is required by the New York State Deptartment of Labor.

G. Transmittal: Submit (4) four signed and notarized original copies of each Application for Payment to Construction Manager by a method ensuring receipt. One copy shall include waivers of lien and similar attachments if required.

H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

I. Initial Application for Payment: Administrative actions and submittals that must precede submittal of first Application for Payment include the following:

1. List of Substitutions
2. Contract or Notice to Proceed.
3. Performance and Payment bonds.
4. Liability, Auto, and Umbrella Insurance
5. Worker Compensation certificates
6. Proposed schedule of values for approval.

J. Initial Application for Payment: Administrative actions and submittals that must coincide with submittal of first Application for Payment include the following:

1. Approved Schedule of values.
2. List of subcontractors.
3. Contractors Safety Program.
4. Proof of completion of the OSHA 10 Safety Training Course by all Contractor's and Subcontractor's employees present on the job site.
    a. Attach copy of this proof of completion for each employee.
    b. Attach copy of this proof of completion on each succeeding payroll where each new or additional employee is first listed.
5. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor. Products list (preliminary if not final).
6. Submittal schedule (preliminary if not final).
    a. First Payment WILL NOT be processed without a Submittal Schedule.
7. Emergency Contacts List.
8. Certified Payroll.
9. Schedule of unit prices.
10. List of Contractor's staff assignments.
11. List of Contractor's principal consultants.
12. Copies of building permits.
13. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
14. Minutes or report of preconstruction conference.

K. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Administrative actions and submittals that shall precede or coincide with this application include:
    a. Occupancy permits and similar approvals.
    b. List of incomplete Work, recognized as exceptions to Architect’s Certificate of Substantial Completion.
    c. Record Drawings and Specifications.
    d. Operations and Maintenance Manuals.

e. Maintenance Instructions and Training.
f. Start-up performance reports.
g. Test/adjust/balance records.
h. Warranties (guarantees) and maintenance agreements.
i. Final cleaning.
j. Change-over information related to Owner's occupancy, use, operation and maintenance.
k. Application for reduction of retainage and consent of surety.
l. Advice on shifting insurance coverages.

2. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
3. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

L. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Ensure that incomplete Work is not accepted and will be completed without undue delay.
2. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
3. Evidence of completion of Project closeout requirements.
4. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
5. Updated final statement, accounting for final changes to the Contract Sum.
6. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
7. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
8. AIA Document G707, "Consent of Surety to Final Payment."
9. Evidence that all claims have been settled.
10. Removal of temporary facilities and services.
11. Removal of surplus materials, rubbish, and similar elements.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General project coordination procedures.
   2. Administrative and supervisory personnel.
   3. Coordination drawings.
   4. Requests for Information (RFIs).
   5. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Sections:
   1. Division 01 Section " Summary" for Project Information and phasing requirements
   2. Division 01 Section "Multiple Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
   3. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
   4. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
   5. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.2 DEFINITIONS

A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information from each other during construction.

1.3 INFORMATIONAL SUBMITTALS

A. Use the Architects Newforma Info Exchange when uploading Submittals.

B. Subcontractor list is required by AIA Document A201 to be submitted as soon as practical prior to award of the Contract. Coordinate with submittal requirements for subcontractor list in Procurement Requirements and Contracting Requirements if any.

C. Subcontractor List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use Subcontractor List form bound into 006000 of this Project Manual. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

D. Key Personnel Names: Within (15) fifteen days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Each Contractor to furnish a 24hr. emergency contact person and cellular phone number.
2. Post copies of listing in project meeting room, or field office, [on Project Web site,] and by each field telephone. Keep list current...

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    f. Indicate required installation sequences.
    g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work. Provide required information for work sequence to interface with the installation work.

2. Plenum Space: Indicate sub framing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire protection, fire alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:
    a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    c. Fire-rated enclosures around ductwork.
7. Electrical Work: Show the following:
    a. Runs of vertical and horizontal conduit 1-1/4 inch diameter and larger.
    b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire alarm locations.
    c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
    d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Fire Protection System: Show the following:
    a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
9. Review areas for required access and indicate the need for access doors for access to shutoffs, electrical boxes, etc.
10. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Architect determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Architect will so inform the Contractor, who shall make changes as directed and resubmit.
    a. Failure to provide the required coordination drawings as required by this specification section may result in withholding a portion of the Contractor payment requests until such coordination drawings are received.

11. Coordination Drawing Prints: Prepare and submit coordination drawing prints in accordance with requirements of Division 01 Section "Submittal Procedures."

C. Architect's Digital Data Files:

1. The Architect will provide digital PDF's of Contract Drawings for the purpose of producing coordination drawings for a Handling Fee of $ 50.00 per drawing file.
    a. Contract documents are graphic representations of approximate locations of materials. Therefore, information contained within these files should not be assumed to be accurate and users of the Files accept full responsibility for verifying the accuracy and completeness of the Files with field conditions and the contract documents.
2. The Architect will provide digital CAD files of Contract Drawings for the purpose of producing coordination drawings for a Handling Fee of $ 150.00 per drawing file.
    a. Contract documents are graphic representations of approximate locations of materials. Therefore, information contained within these files should not be assumed to be accurate and users of the Files accept full responsibility for verifying the accuracy and completeness of the Files with field conditions and the contract documents.
3. Document Transfer Agreement - For Projects where Architect's work files are not a deliverable: The Contractor shall execute an Electronic Document Transfer Agreement for all electronic transfers of files, other than PDFs. The contractor must provide acknowledgement, accept the information regarding drawings, ownership and Limitations of Liability. Electronic Document Transfer Agreement form is bound in section 006000 of this Project Manual.
    a. The following CAD files will by furnished for each appropriate discipline:
        1) Floor plans.
        2) Reflected ceiling plans.

1.6 KEY PERSONNEL

A. Key Personnel Names: Within (5) five days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, or temporary office, and by field telephone.

1.7 REQUESTS FOR INFORMATION (RFI)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Do not submit an RFI if information is readily available in the contract documents. Verify by contacting and questioning the Architect prior to submitting an RFI.
    a. Architect will return with no response, any RFI where information is available to the contractor and is indicated in the Contract Documents.
2. Architect will return RFI's submitted to Architect by other entities controlled by Contractor with no response.
3. Coordinate and submit RFI's in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Name of Contractor.
4. Name of Architect and Construction Manager.
5. RFI number, numbered sequentially.
6. RFI subject.
7. Specification Section number and title and related paragraphs, as appropriate.
8. Drawing number and detail references, as appropriate.
9. Field dimensions and conditions, as appropriate.
10. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
11. Contractor's signature.
12. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI’s sent without the required content information will not be considered a formal RFI and will be returned to the Contractor without comment or response.

D. RFI Forms: Use Request For Information form bound in section 006000 of this Project Manual.

E. Construction Manager's Action: Construction Manager will review each RFI, determine action required, and respond. Allow (7) seven working days for Architect's response for each RFI. RFI's received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following RFI's will be refused without action:
    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.
    e. Requests for interpretation of Architect's actions on submittals.
    f. Incomplete RFI's or inaccurately prepared RFI's.
2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFI's that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit a Change Proposal according to Division 01 Section "Contract Modification Procedures."
    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within (10) ten days of receipt of the RFI response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFI's organized by the RFI number. Submit log weekly. Use CSI Log Form 13.2B. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFI's that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

G. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within (7) seven days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.8 ARCHITECT'S WEBSITE

A. The contractor will use Newforma Info Exchange for Submittals, Shop Drawings and RFI's. Project Web site shall include the following functions:
   1. Project directory.
   2. Project correspondence.
   3. Meeting minutes.
   4. Contract modifications forms and logs.
   5. RFI forms and logs.
   6. Task and issue management.
   7. Photo documentation.
   8. Schedule and calendar management.
   9. Submittals forms and logs.
   10. Payment application forms.
   11. Drawing and specification document hosting, viewing, and updating.
   12. Online document collaboration.
   13. Reminder and tracking functions.
   14. Archiving functions.

B. Provide up to (7) seven Project Web site user licenses for use by the Architect. Provide (8) eight hours of software training at Architect's office for Project Web site users.

C. Upon completion of Project, provide (1) one complete archive copy(ies) of Project Web site files to Owner and to Architect in a digital storage format acceptable to Architect.

D. Contractor, subcontractors, and other parties granted access by Contractor to Project Web site shall execute a data licensing agreement in the form of AIA Document C106.

1.9 PROJECT MEETINGS

A. General: Architect will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times. All Prime Contractors are required to attend Project Meetings.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, within (3) three days of the meeting.

B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than (15) fifteen days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Architect, and Architect's Consultants; Contractors and their superintendents; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to decide matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:
    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Procedures for project communications.
    f. Procedures for processing field decisions and Change Orders.
    g. Procedures for RFI's.
    h. Testing and inspecting reqiurements.
    i. Procedures for processing Applications for Payment.
    j. Distribution of the Contract Documents.
    k. Submittal procedures using Newforma Info Exchange.
    l. Preparation and updating of record documents.
    m. Use of the premises.
    n. Work restrictions.
    o. Working hours.
    p. Owner's occupancy requirements and restrictions.
    q. Responsibility for temporary facilities and controls.
    r. Procedures for moisture and mold control.

s. Procedures for disruptions and shutdowns.
t. Construction waste management and recycling.
u. Parking availability.
v. Office, work, and storage areas.
w. Equipment deliveries and priorities.
x. First aid.
y. Security.
z. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Architect shall conduct a preinstallation conference at Project site, unless otherwise indicated, before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in, or affected by, the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise all parties involved of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   a. Contract Documents.
   b. Options.
   c. Related RFI's.
   d. Related Change Orders.
   e. Purchases.
   f. Deliveries.
   g. Submittals.
   h. Review of mockups.
   i. Possible conflicts.
   j. Compatibility problems.
   k. Time schedules.
   l. Weather limitations.
   m. Manufacturer's written recommendations.
   n. Warranty requirements.
   o. Compatibility of materials.

p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: The entity recording meeting minutes shall distribute them to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Architect will conduct progress meetings at weekly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
2. Required Attendees: In addition to representatives of Owner and Architect, each Prime contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to decide matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Progress cleaning.
10) Status of correction of deficient items.
11) Field observations.
12) Status of RFI's.
13) Status of proposal requests.
14) Pending changes.
15) Status of Change Orders.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Coordination Meetings: Architect will conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

c. Review present and future needs of each contractor present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Change Orders.

3. Reporting: Entitiy recording meeting minutes shall distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

F. Project Closeout Meeting: Architect will schedule and conduct a Project Closeout Meeting, at a time convenient to Owner and Architect, but no later than (30) thirty days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Required Attendees: Authorized representatives of Owner and Architect; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
   a. Preparation and completion of Contractor's punch list.
   b. Responsibility for removing temporary facilities and controls.
   c. Owner's partial occupancy requirements.
   d. Coordination of separate contracts for owner related work prior to occupancy.
   e. Installation of Owner's furniture, fixtures, and equipment.
   f. Requirements for preparing operations and maintenance data.
   g. Requirements for the Submittal of written warranties.
   h. Requirements for demonstration and training.
   i. Requirements for submission of record documents, record specifications and record submittals.
   j. Responsibility and schedule for final cleaning
   k. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Start-up construction schedule.
2. Contractor's construction schedule.
3. Daily construction reports.
4. Field condition reports.
5. Special reports.

B. Related Sections:

1. Division 01 Section "Multiple Contract Summary" for preparing a combined Contractor's Construction Schedule.
2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
3. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.2 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format(s):

1. Electronic PDF files.

B. Start-up construction schedule.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

D. Daily Construction Reports: Submit at weekly intervals.

E. Field Condition Reports: Submit at time of discovery of differing conditions.

F. Special Reports: Submit at time of unusual event.

1.3 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination". Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss phasing.
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review time required for review of submittals and resubmittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for completion and startup procedures.
9. Review and finalize list of construction activities to be included in schedule.
10. Review submittal requirements and procedures.
11. Review procedures for updating schedule.

1.4 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for commencement of the Work to date of Substantial Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities and days
2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than (60) sixty days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Startup and Testing Time: Include not less than (15) fifteen days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not more than (30) thirty days for punch list and final completion.

C. Schedule Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary". Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary". Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:
    a. Coordination with existing construction.
    b. Limitations of continued occupancies.
    c. Uninterruptible services.
    d. Partial occupancy before Substantial Completion.
    e. Use of premises restrictions.
    f. Provisions for future construction.
    g. Seasonal variations.

h. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
   a. Submittals.
   b. Purchases.
   c. Mockups.
   d. Sample testing.
   e. Deliveries.
   f. Installation.
   g. Tests and inspections.
   h. Adjusting.
   i. Startup and placement into final use and operation.
8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Structural completion.
   b. Permanent space enclosure.
   c. Completion of mechanical installation.
   d. Completion of electrical installation.
   e. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed and Substantial Completion.

E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
   1. Unresolved issues.
   2. Unanswered RFI's.
   3. Rejected or unreturned submittals.
   4. Notations on returned submittals.

F. Recovery Schedule: When periodic update indicates the Work is (14) fourteen or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 START-UP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within (7) seven days of date established for approval. Schedule to start from the Notice of Award.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first (90) ninety days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: From the approved Bar Chart Schedule submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within (30) thirty days Base schedule on the approved startup construction schedule and additional information received since the start of Project.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of Prime contractors at Project site.
2. List of subcontractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.

14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within (1) one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Owner, Architect, Construction Manager, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

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SECTION 013300
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. This specification describes the procedures for submission of submittals and shop drawings using Newforma Info Exchange.

1. The Contractor will be required to use the Newforma Info Exchange for the transfer of Submittals, Shop Drawings and RFI's. There will be **no exceptions** to this requirement. The contractor will be given a login and password free of charge. For more information follow the procedure below.
    a. Information and instructions for use are available for review by the Contractor by contacting CPL. The Contractor is to provide an email address for the file to be sent. A PDF file will be emailed to the requesting contractor.

C. Related Requirements:

1. Section 012900 - Payment Procedures, for submitting Applications for Payment and the schedule of values.
2. Section 013100 - Project Management and Coordination, for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
3. Section 013200 - Construction Progress Documentation, for submitting schedules and reports, including Contractor's construction schedule.
4. Section 014000 - Quality Requirements, for submitting test and inspection reports, and schedule of tests and inspections.
5. Section 017700 - Closeout Procedures, for submitting closeout submittals and maintenance material submittals.
6. Section 017823 - Operation and Maintenance Data, for submitting operation and maintenance manuals.
7. Section 017839 - Project Record Documents, for submitting record Drawings, record Specifications, and record Product Data.
8. Section 017900 - Demonstration and Training, for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals".

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals".

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.3 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file of certificate, signed and sealed by the responsible design professional, licensed in the state of project location, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.4 SUBMITTAL GENERAL ADMINISTRATIVE REQUIREMENTS

A. The Contractor shall prepare a Submittal Log containing the information required to be submitted under the Submittal article from each respective Specification Section. With each item listed the Contractor shall provide anticipated dates for submission to the Architect. The Architect will review and accept or request that corrections be made for subsequent acceptance. This acceptance will constitute an approval for the submittal, shop drawings and sample submissions to commence. **No Submittals or Shop Drawings will be reviewed by the Architect until an approved Submittal Schedule is in place.**

B. The contractor shall prepare expected submittals in Newforma that correspond to all submittals listed on the submittal schedule at the time of submission of the submittal log. These expected submittals are to follow the naming conventions laid out in section "1.5 Submittal Schedule" and "1.6 Submittal Identification".

C. The Contractor is responsible for all costs for creating electronic files for the submittal process. The Architect will not provide this service.

1. The Submittal Cover Sheet located in Specification Section 006000 Project Forms shall be used for all Submittals.
    a. An electronic form of the submittal cover is available upon request from the Architect.
2. The Submittal Cover sheet when scanned to a PDF shall be the first page viewed in the individual file.
    a. Each product submitted within a specification section shall have a Submittal Cover sheet attached. Combined submittals with one cover page will not be accepted
    b. Each Submittal Cover sheet shall be filled in completely. **Files that are sent with the Submittal Cover Sheet missing or not filled in correctly will not be reviewed**. The Architect will send a notice that the submittal is missing information. If the Contractor fails to correct or provide the proper submittal within (15) fifteen days, notice will be provided, and the submittal will be REJECTED.
3. The Contractor(s) will be provided with a link to upload files to the Newforma Info Exchange. The site address and a "log in" will be provided to the Contractor(s) free of charge.
4. A read-only Record Submittal Log and RFI Log will be available from the Newforma Info Exchange for the Contractor's reference in checking the status of the submittals and shop drawings.

D. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittals of different types of submittals from related sections for parts of the work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received. Delays associated with the above are not the Architects responsibility and rests solely with the Contractor.

E. Architect's Digital Data Files:
1. The Architect will provide digital PDF’s of Contract Drawings for the purpose of producing shop drawings for a handling fee of $50.00 per drawing file.
    a. Contract documents are graphic representations of approximate locations of materials. Therefore, information contained within these files should not be assumed to be accurate and users of the Files accept full responsibility for verifying the accuracy and completeness of the Files with field conditions and the contract documents.
2. The Architect will provide digital CAD files of Contract Drawings for the purpose of producing shop drawings for a handling fee of $150.00 per drawing file.
    a. Contract documents are graphic representations of approximate locations of materials. Therefore, information contained within these files should not be assumed to be accurate and users of the Files accept full responsibility for verifying the accuracy and completeness of the Files with field conditions and the contract documents.
3. Document Transfer Agreement - For Projects where Architect’s work files are not a deliverable: The Contractor shall execute an Electronic Document Transfer Agreement for all electronic transfers of files, other than PDF's. The contractor must provide acknowledgement, accept the information regarding drawings, ownership and Limitations of Liability. Electronic Document Transfer Agreement form is bound into section 006000 of this Project Manual.
    a. The following plot files will by furnished for each appropriate discipline:
        1) Floor plans.
        2) Reflected ceiling plans.

1.5 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1. Submit a preliminary, if not final, Submittal Schedule for approval a minimum of (15) fifteen days after award of contract. Failure to submit a submittal schedule within the required time frame will result in the refusal by the Architect to review any submittals. Delays associated with failure to receive the Submittal Schedule are not the Architect's responsibly and rest solely with the Contractor.

B. The information is required to be submitted under the Submittal article from each respective Specification Section. With each item listed, the Contractor shall provide anticipated dates for submission to the Architect. The Architect will review and accept or request that corrections be made for subsequent acceptance. This acceptance will constitute a review for the submittal, shop drawings and sample submissions may commence. No Submittals or Shop Drawings will be reviewed by the Architect until an approved Submittal Schedule is in place.

1. The Submittal Schedule shall be coordinated with the overall Project Schedule to ensure that submittals are submitted and reviewed so as not to delay the Project Schedule.
2. The Architect will not be responsible for ensuring that all required Shop Drawings, Product Data, Samples or similar submittals that are required to be submitted and reviewed under the Contract Documents are submitted by the Contractor. Submissions of Shop Drawings, Product Data, Samples or similar submittals are the Contractor’s sole responsibility. Delays associated with the Contractor’s failure to provide the required submittals are the Contractor's responsibility.
3. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
4. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first (30) thirty days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
5. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.

a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.

6. Format: Arrange the following information in a tabular format:
   a. Scheduled date for first submittal.
   b. Specification Section number and title.
   c. Submittal Category: Action; informational.
   d. Name of subcontractor.
   e. Description of the Work covered.
   f. Scheduled date for Architect's and Construction Manager's final release or approval.
   g. Scheduled dates for purchasing.
   h. Scheduled date of fabrication.
   i. Scheduled dates for installation.

1.6 SUBMITTAL IDENTIFICATION

A. Submittal Cover Sheet: Attach one cover sheet for each product, shop drawing or sample. **DO NOT** combine submittals together with one cover sheet for multiple items. They will not be reviewed.

B. Submittal Information: Include the following information in each submittal. Use the submittal cover form found in specification section 006000 Project Forms. An electronic form can be sent to the contractor upon request.
   1. Contractor, Address, Phone/fax and or Email
   2. Contractors Submittal Number.
   3. Architects Project Number (if not filled in by the Architect).
   4. Project Name (if not filled in by the Architect).
   5. Type of submittal being sent (select box).
   6. Product Identification including the following: Provide one submittal cover sheet for each product within a specification section.
      a. Specification Section Number.
      b. Contract Drawing Number.
      c. Product Name.
      d. Specification Reference: Part/Paragraph.
      e. Detail Reference.
      f. Manufacturer.

7. Contractors Approval: The contractor must acknowledge that they have reviewed the submittal for conformance with the Contract Documents and must sign and date the approval.
8. Deviation from the Contract Documents: Where the submittal may not meet all of the requirements of the specified item. The contractor must indicate how the submitted item differs from the specified item.
9. Contractor Comments: Any additional comments by the contractor should be indicated in this space. (Provide an attachment sheet for any other information required that will not fit on the cover sheet).

C. Deviations and Additional Information: On each individual submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information, revisions, line by line comparison and other information requested by Architect and Construction Manager. Indicate by highlighting on each submittal or noting on attached separate sheet. Identify options requiring selection by Architect.

D. File Naming (for uploading to Newforma Info Exchange): Each submittal or shop drawing file uploaded to the project on the Newforma Info Exchange, shall have in the file name, the specification section number followed by the submittal number, the submittal abbreviation and the specification section name. For re-submissions an R1 would be added following submittal number. The file name must include the following information:

Example:

081416	001	PD	Flush Wood Doors
Spec Section	Submittal No.	Submittal Abbr	Specification Name

File to Read: 081416-001 PD - Flush Wood Doors

Re-submission to Read: 081416-001-R1 PD - Flush Wood Doors

Submittal Abbreviations required to be used in the file name on submittals are as follows:

CD - Coordination Drawings
CERT - Certification(s)
CLC - Calculations
DD - Design Data
EJ - Engineer's Judgement
LEED - LEED or PD/LEED

O&M - Operations and Maintenance Manuals

PD - Product Data

PHOTO - Photo

QD - Qualification Data

RPT - Report

SAMP - Sample

SCH - Schedule

SEL - Make A Selection

SD - Shop Drawing(s)

STDY - Study

TR - Test Results

WAR - Warranty

E. When uploading submittals or RFI's to the Newforma Info Exchange, complete the online transmittal. The information required is derived from the Contractor's submittal cover sheet or RFI. Instructions for using the Newforma Info Exchange are available from CPL. These instructions can be emailed to the contractor.

1.7 SUBMITTAL DATA AND TESTING REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment. Each product within a specification section shall have a separate submittal cover.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable. Send full submittals for each product. Partial submittals will not be reviewed until all required submittal information is received. The Architect will not be responsible for project delays due to the Contractor's failure to submit the required submittal information in a complete package.
3. Include the following information, as applicable:
    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.

f. Application of testing agency labels and seals.

g. Notation of coordination requirements.

h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams that show factory-installed wiring.

b. Printed performance curves.

c. Operational range diagrams.

d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.

B. Shop Drawings: Prepare project-specific information for each shop drawing. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.

b. Schedules.

c. Compliance with specified standards.

d. Notation of coordination requirements.

e. Notation of dimensions established by field measurement.

f. Relationship and attachment to adjoining construction clearly indicated.

g. Description any conflicts with other trades.

h. Seal and signature of professional engineer if specified.

C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package. If samples are delivered with product data, only the samples will be reviewed. The Product Data must be uploaded to the Newforma Info Exchange. A duplicate submittal cover sheet is to be uploaded to the Newforma Info Exchange as a record of sample delivery.

a. The Product Data is to be loaded concurrent with the delivery of samples. Samples may be delivered/given to the Architect. In the remarks column of the transmittal place “given to the Architect”.

2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
   a. Project name and submittal number.
   b. Generic description of Sample.
   c. Product name and name of manufacturer.
   d. Sample source.
   e. Number and title of applicable Specification Section.
   f. Specification paragraph number and generic name of each item.
   g. In addition to all hard copy and physical samples submitted, duplicate digital submittal is to be produced for review, record and tracking purposes through Newforma Info Exchange. Include same information as above as well as a high resolution, color, digital image of all samples with labeled information clearly visible for each physical sample.
3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit (1) one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect through Construction Manager will return submittal with options selected.
5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a. Number of Samples: Submit (3) three sets of Samples. Architect and Construction Manager will retain (2) two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.

1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least (3) three sets of paired units that show approximate limits of variations.

D. Information requirements for each submittal: Where submittal is requiring Schedules, Product Data, Qualification Data, Design Data, Certificates and Tests use the following protocol.

1. Schedules: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
2. Product Data: Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
   a. Manufacturer and product name, and model number if applicable.
   b. Number and name of room or space.
   c. Location within room or space.
3. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
4. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
5. Certificates:
   a. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
   b. Insert definition of Contractor certificates here if required by individual Specification Sections. See the Evaluations.
   c. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
   d. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

e. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.

f. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.

g. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

h. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

i. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

j. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

k. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

6. Test and Research Reports:

a. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.

b. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

c. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

d. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

e. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

f. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1) Name of evaluation organization.
2) Date of evaluation.
3) Time period when report is in effect.
4) Product and manufacturers' names.
5) Description of product.
6) Test procedures and results.
7) Limitations of use.

E. Submit the following submittals: Within (15) fifteen days of contract award.

1. Submittal Schedule including dates of anticipated review and approval.
   a. No submittals will be reviewed without an approved Submittal Schedule in place.
2. Subcontractor List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
   a. Name, address, telephone number and email address of entities performing subcontract or supplying products.
   b. Number and title of related Specification Section(s) covered by subcontract.
3. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation".
4. Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures".

F. Submit with in the first (30) thirty days after Contract Award

1. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014329 "Special Inspections".
2. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

3. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

G. Submit Field Test Reports during construction within (15) fifteen days of the testing date and as follows:
   1. Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

H. Submit a minimum (30) thirty days prior to Project Closeout:
   1. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures".
   2. Maintenance Data: Comply with requirements specified in Division 01 Section 017823 "Operation and Maintenance Data".

1.8 SUBMITTAL PROCESSING

A. Processing Time: Allow time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including re-submittals.

B. The architect will not be responsible for project delays due to the contractor’s failure to submit the required submittal information in time to allow for review based on the stipulated review time and to meet the project schedule.

C. Initial Review: Allow (10) ten Calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

D. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

E. Re-submittal Review: Allow (10) ten Calendar days for review of each re-submittal.

F. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow (21) twenty-one Calendar days for initial review of each submittal.

G. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow (15) fifteen Calendar days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

H. Where submittal are required to be approved that are part of an assembly or for items such as finishes where color selections are required. The submittal will be retained until all of the information related to these systems and color selections is provided and accepted.

I. Products with multiple submittals may be held until all necessary information has been submitted for architect to make a complete review. Submittals dependent on coordinating information from related or dependent products; or products with critical interface with other products may be held until all information is submitted for architect to make a complete review and coordinate all required information. EXAMPLE: door frames will not be reviewed without door hardware.

J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with reviewed notation from Architect's and Construction Manager's action stamp.

K. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

1.9 SUBMITTAL PROCEDURES

A. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

B. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

C. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

D. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

E. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

F. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

G. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

H. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

I. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

J. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements".

K. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

L. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

M. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

N. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data".

O. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

1.10 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Contractors Approval: Provide Contractor's approval signature and date on the Submittal Cover sheet certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1.11 ARCHITECT'S ACTION

A. Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will respond to each submittal indicating one of the following actions required:

1. NO EXCEPTIONS TAKEN (NET): Architect takes no exception to the submittal. This part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. FURNISH AS CORRECTED (FAC): No exceptions taken except what is identified by the Architect. The part of 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 acceptance will depend on that compliance. Furnish any additional related information as requested.

3. REVISE AND RESUBMIT (RAR): Revise the submittal based on the Architects comments and resubmit the submittal. Do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
    a. Do not permit submittals marked “Revise and Resubmit” to be used at the Project Site, or elsewhere where Work is in progress.
4. REJECTED (REJ): The submittal is rejected. See Architects comments on why submittal was rejected.
    a. Submittal has not been reviewed by the Contractor and so noted.
    b. Submittal has been prepared without due regard for information called for or logically implied by the Contract Documents.
    c. Information is not sufficiently complete or accurate to verify that work represented is in accordance with the Contract Documents.
    d. Do not permit submittals marked “Rejected” to be used at the Project Site, or elsewhere where Work is in progress.
5. NO ACTION TAKEN (NAT): The submittal is not required and will not be reviewed.

B. Submittals by Newforma Info Exchange: Architect will indicate, on Newforma Info Exchange, the appropriate action.

C. Informational Submittals: Architect will review each submittal and will not return it or will return it if it does not comply with requirements. The Architect's action will be noted in the Newforma Info Exchange.

D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect. The Architect's action will be noted in the Newforma Info Exchange and noted as a partial review until a full submittal can be received.

E. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for re-submittal without review.

F. Submittals not required by the Contract Documents will not be reviewed and will receive no action.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, and Construction Manager or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections:

1. Division 01 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
2. Division 01 Section “Code-Required Special Inspections and Procedures” for tests and inspections ordered by the Owner.
3. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.
2. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.

D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of (5) five Projects similar in nature, size, and extent of this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Statement: Submit a statement signed and sealed by the responsible design professional, licensed in the state of project location, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
   1. The design professional shall be licensed to perform professional design services In the jurisdiction of the project location.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.
2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.
   1. Seismic-force resisting system, designated seismic system, or component listed in the designated seismic system quality assurance plan prepared by the Architect.
   2. Main wind-force resisting system or a wind-resisting component listed in the wind-force-resisting system quality assurance plan prepared by the Architect.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
   1. Specification Section number and title.
   2. Entity responsible for performing tests and inspections.
   3. Description of test and inspection.
   4. Identification of applicable standards.
   5. Identification of test and inspection methods.
   6. Number of tests and inspections required.
   7. Time schedule or time span for tests and inspections.
   8. Requirements for obtaining samples.
   9. Unique characteristics of each quality-control service.

1.7 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making tests and inspections.
   6. Description of the Work and test and inspection method.

7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and re-inspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm with (5) five years' experience in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm with (5) five years' experience in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual with (5) five years' experience in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:
    a. Provide test specimens representative of proposed products and construction.
    b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    f. When testing is complete, remove test specimens, assemblies, mockups; do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location indicated or, if not indicated, as directed by Architect or Construction Manager.
2. Notify Architect and Construction Manager (7) seven days in advance of dates and times when mockups will be constructed.

3. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's and Construction Manager's approval of mockups before starting corresponding Work, fabrication, or construction.
   a. Allow (7) seven days for initial review and each re-review of each mockup.
6. Promptly correct unsatisfactory conditions noted by Architect's preliminary review, to the satisfaction of the Architect, before completion of final mockup.
7. Approval of mockups by the Architect does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
8. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
9. Demolish and remove mockups when directed unless otherwise indicated.

L. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph.
   1. Coordinate construction of the mockup to allow observation of air barrier installation, flashings, air barrier integration with fenestration systems, and other portions of the building air/moisture barrier and drainage assemblies, prior to installation of veneer, cladding elements, and other components that will obscure the work.

M. Room Mockups: Construct room mockups as indicated on Drawings, incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Comply with requirements in "Mockups" Paragraph.

1.9 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
   1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
6. Notify testing agencies at least (24) twenty four hours in advance of time when Work that requires testing or inspecting will be performed.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures".

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
6. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.10 QUALITY-CONTROL PLAN

A. Contractor's Quality-Control Plan, The Contractor shall submit quality-control plan within (10) ten days of Notice of Award, and not less than (5) five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities and to coordinate Owner's quality-assurance and quality-control activities. Coordinate with Contractor's Construction Schedule.

B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
   1. Project quality-control manager may also serve as Project Superintendent.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
   1. Contractor-performed tests and inspections, including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
   2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
   3. Owner-performed tests and inspections indicated in the Contract Documents.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring the Work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports, including log of approved and rejected results. Include Work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming Work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.11 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of the Owner and as follows:
   1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
   2. Notifying Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.

3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, through Construction Manager, with a copy to Contractor, and to Authorities having Jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and re-inspecting corrected work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:
   1. Date test or inspection was conducted.
   2. Description of the Work tested or inspected.
   3. Date test or inspection results were transmitted to Architect.
   4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
   1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution".

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

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SECTION 014119

REGULATORY REQUIREMENTS (NYS EDUCATION DEPARTMENT)

PART 1 GENERAL

1.1 SUMMARY

A. Section includes:

1. "Uniform Safety Standards for School Construction and Maintenance Projects" for maintaining a Certificate of Occupancy during construction.

1.2 REFERENCES

A. Section 155.5 of the Regulations of the New York State Commissioner of Education "Uniform Safety Standards for School Construction and Maintenance Projects".

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENT

A. The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy.

3.2 HAZARDOUS BUILDING MATERIALS

A. Surfaces that will be disturbed during renovation or demolition have been tested for asbestos, PCB's and lead. Results of the testing are available, upon request, from the Owner.

3.3 GENERAL SAFETY AND SECURITY STANDARDS FOR CONSTRUCTION

A. General safety and security standards for construction projects include the following:

1. All construction materials shall be stored in a safe and secure manner.
2. Fences around construction supplies or debris shall be maintained.
3. Gates shall always be locked unless a worker is in attendance to prevent unauthorized entry.

4. During exterior renovation work, overhead protection shall be provided for any sidewalks or areas immediately beneath the work site or such areas shall be fenced off and provided with warning signs to prevent entry.
5. Workers shall be required to wear photo-identification badges at all times for identification and security purposes while working at occupied sites.

3.4 SEPARATION OF CONSTRUCTION AREAS FROM OCCUPIED AREAS

A. Construction areas which are under the control of a contractor and therefore not occupied by district staff or students shall be separated from occupied areas. Provisions shall be made to prevent the passage of dust and contaminants into occupied parts of the building. Periodic inspection and repairs of the containment barriers must be made to prevent exposure to dust or contaminants. Gypsum board must be used in exit ways or other areas that require fire rated separation. Heavy duty plastic sheeting may be used only for a vapor, fine dust or air infiltration barrier, and shall not be used to separate occupied spaces from construction areas.

1. A specific stairwell and/or elevator should be assigned for construction worker use during work hours. In general, workers may not use corridors, stairs or elevators designated for students or school staff.
2. Large amounts of debris must be removed by using enclosed chutes or a similar sealed system. There shall be no movement of debris through halls of occupied spaces of the building. No material shall be dropped or thrown outside the walls of the building.
3. All occupied parts of the building affected by renovation activity shall be cleaned at the close of each workday. School buildings occupied during a construction project shall maintain required health, safety and educational capabilities at all times that classes are in session.

3.5 MAINTAINING EXITING DURING CONSTRUCTION

A. The Contractor will prepare a plan detailing how exiting required by the applicable building code will be maintained during construction. The plan shall indicate temporary construction required to isolate construction equipment, materials, people, dust, fumes, odors, and noise during the construction period. Temporary construction details shall meet code-required fire ratings for separation and corridor enclosure. At a minimum, required exits, temporary stairs, ramps, exit signs, and door hardware shall be provided at all times.

3.6 MAINTAINING VENTILATION DURING CONSTRUCTION

A. The Contractor will prepare a plan detailing how adequate ventilation will be maintained during construction. The plan shall indicate ductwork that must be rerouted, disconnected, or capped in order to prevent contaminants from the construction area from entering the occupied areas of the building. The plan shall also indicate how required ventilation to occupied spaces affected by the construction will be maintained during the project.

3.7 NOISE ABATEMENT DURING CONSTRUCTION

A. Construction and maintenance operations shall not produce noise in excess of 60 dba in occupied spaces or shall be scheduled for times when the building or affected building spaces are not occupied or acoustical abatement measures shall be taken.

B. Noise level measurements (dba) shall be taken with a type 2 sound level meter in the occupied space in a location closest to the source of noise.

C. Each prime contractor shall have a type 2 sound level meter available on the project site at all times for use by the architect/engineer for the entire duration of the construction project.

3.8 CONTROL OF CHEMICAL FUMES, GASES AND OTHER CONTAMINANTS DURING CONSTRUCTION

A. The contractor shall be responsible for the control of chemical fumes, gases, and other contaminates produced by, including but not limited to, welding, gasoline or diesel engines, roofing, paving, or painting, to ensure they do not enter occupied portions of the building or air intakes.

1. Contractors shall provide a plan indicating how and where welding, gasoline engine, roofing, paving, painting or other fumes will be exhausted from the work site. Contractors shall provide all temporary means to assure that fresh air intakes do not draw in such fumes.
2. If any portion of the work will generate toxic gases that cannot be contained in an isolated area, the work shall be done when school classes and programs are not in session. The contractor shall include costs associated with this requirement in his bid. The building shall be properly ventilated and, the material shall be given proper time, as recommended by the manufacturer, to cure “off-gas” before re-occupancy.

3. The contractor shall maintain all manufacturers' Material Safety Data Sheets (MSDS) at the site for all products used in the project. Copies of the MSDS sheets shall be given to the Architect and to the School District. MSDS sheets shall be provided to anyone who requests them.

3.9 CONTROL OF OFF-GASSING DURING CONSTRUCTION

A. The contractor shall be responsible to ensure that activities and materials which result in "off-gassing" of volatile organic compounds such as glues, paints, furniture, carpeting, wall covering, drapery, etc. are scheduled, cured or ventilated in accordance with manufacturers recommendations before a space can be occupied.

1. Contractor shall provide, in their schedules for work of the construction, proper time for "off-gassing" or volatile organic compounds introduced during construction before occupancy is allowed. Specific attention is warranted for activities including glues, adhesives, paint, furniture, carpeting, wall coverings, and drapery. Manufacturers shall be contacted to obtain information regarding appropriate temperatures and times needed to cure or ventilate the product during use and before safe occupancy of the space can be assured. The contractor shall include the above-mentioned information and shall clearly highlight the information, as part of the shop drawing submittal.
2. Building materials or furnishings which "off-gas" chemical fumes, gases, or other contaminants shall be aired out in a well ventilated heated warehouse before it is brought to the project for installation or, the manufacturer's recommended "off-gassing" periods must be scheduled between installation and use of the space.
3. The contractor shall maintain all manufacturers' Material Safety Data Sheets (MSDS) at the site for all products used in the project. Copies of the MSDS sheets shall be given to the Architect and to the School District. MSDS sheets shall be provided to anyone who requests them.

3.10 ASBESTOS-CONTAINING BUILDING MATERIALS

A. Large and small asbestos abatement projects as defined by 12NYCRR56 shall not be performed while the building is occupied. The term "building", as referenced in this section, means a wing or major section of a building that can be completely isolated from the rest of the building with sealed noncombustible construction. The isolated portion of the building must contain exits that do not pass through the occupied portion and ventilation systems must be physically separated and sealed at the isolation barrier.

B. Exterior work such as roofing, flashing, siding, or soffit work may be performed on occupied buildings provided proper variances are in place as required, and complete isolation of ventilation systems and at windows is provided. Care must be taken to schedule work so that classes are not disrupted by noise or visual distraction.

C. For clearance sampling, the air sampling technician shall provide aggressive air sampling per Rule 56 and as follows: First direct the exhaust of a leaf blower, against all walls, ceilings, floors, ledges, and other surfaces in the work area. Continue agitation for at least five minutes per every 1,000 sf of floor space. Following this aggressive agitation, the air-sampling technician shall use at least one 20-inch fan per 10,000 cubic feet of work area space for continuous agitation. The fan shall be operated on low speed and pointed toward the ceiling. Sampling pumps shall be started after the fans are started and stopped before the fans are stopped.
   1. Samples shall be logged on a permanently bound logbook at the laboratory. No whiteout will be used to make corrections.
   2. All lab counts, data and analysis shall be recorded on a lab summary sheet for each sample.
   3. Per the requirements of the New York State Education Department all Final Air Clearance Samples shall be (TEM) Transmission Electron Microscopy methodology.

3.11 LEAD-CONTAINING BUILDING MATERIALS

A. Surfaces that will be disturbed by reconstruction have been tested for the present of lead based paint materials. This information is provided in order that proper measures are taken, to train and protect workers per OSHA regulations. Refer to Division 00 section "Existing Hazardous Material" Information for testing results.

B. Projects which disturb surfaces that contain lead shall have in the specifications a plan prepared by a certified Lead Risk Assessor or Supervisor which details provisions for occupant protection, worksite preparation, work methods, cleaning and clearance testing which are in general accordance with the HUD Guidelines.

END OF SECTION

SECTION 014200
REFERENCE STANDARDS

PART 1 GENERAL

1.1 KEY DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 DEFINITIONS

A. Air Handling Unit: A blower or fan used for the purpose of distributing supply air to a room, space or area.

B. Approved Agency: An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved according to the requirements established in this Section and as required by the Code Official having jurisdiction over this project.

C. Architect: Other terms including “Architect/Engineer” and “Engineer” have the same meaning as "Architect".

D. Company Field Adviser: An employee of the Company which lists and markets the primary components of the system under the name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation, and serving of the required products. Personnel involved solely in sales do not qualify.

E. Concealed Location: A location that cannot be accessed without damaging permanent parts of the building structure or finish surface. Spaces above, below or behind readily removable panels or doors shall not be considered as concealed.

F. Concealed Piping: Piping that is located in a concealed location. (See "concealed location".)

G. Connect: A term contraction and unless otherwise specifically noted is to mean “ The labor and materials necessary to join or attach equipment, materials or systems to perform the functions intended”.

H. Construction Manager: Construction Manager's Name.

I. Drain: Any pipe that carries wastewater or water-borne wastes in a building drainage system.

J. Drainage Fittings: Type of fitting or fittings utilized in the drainage system. Drainage fittings are similar to cast-iron fittings, except that instead of having a bell and spigot, drainage fittings are recessed and tapped to eliminate ridges on the inside of the installed pipe.

K. Drainage System: Piping within a public or private premise that conveys sewage, rainwater or other liquid wastes to a point of disposal. A drainage system does not include the mains of a public sewer system or a private or public sewage treatment or disposal plant.

1. Building Gravity: A drainage system that drains by gravity into the building sewer.
2. Sanitary: A drainage system that carries sewage and excludes storm, surface and ground water.
3. Storm: A drainage system that carries rainwater, surface water, condensate, cooling water or similar liquid wastes.

L. Duct: A tube or conduit utilized for conveying air. The air passages of self-contained systems are not to be construed as air ducts.

M. Duct System: A continuous passageway for the transmission of air that, in addition to ducts, includes duct fittings, dampers, plenums, fans and accessory air-handling equipment and appliances.

N. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

O. Headroom: Minimum clearance between the floor and the underside of the point of lowest installed mechanical construction above. In case of stairways and walkways, the minimum clearance between the step or surface of the walkway and the lowest installed mechanical construction above the stairway or the walkway.

P. Include: When used in any form other than “inclusive”, is non-limiting and is not intended to mean “all-inclusive.”

Q. Indicated: Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

R. Inspection Certificate: Identification applied on a product by an approved agency containing the name of the manufacturer, the function and performance characteristics, and the name and identification of an approved agency that indicates that the product or material has been inspected and evaluated by an approved agency.

S. 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.

1. Trades: Using a term 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 tradespersons of the corresponding generic name.
2. 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.
3. 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.

T. Label: An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency.

U. Location:

1. Damp Location: Partially protected locations under canopies, marquees, roofed open porches and like locations, and interior locations subject to moderate degrees of moisture, such as some basements, some barns and some cold-storage warehouses.
2. Dry Location: A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction.
3. Wet Location: Installations underground or in concrete slabs or masonry in direct contact with the earth and locations subject to saturation with water or other liquids, such as vehicle-washing areas, and locations exposed to weather and unprotected.

V. Manufacturer's Designation: Identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules (see also "Inspection Certificate," "Label" and "Mark").

W. Mark: An identification applied on a product by the manufacturer indicating the name of the manufacturer and the function of a product or material (see also "Inspection Certificate," "Label" and "Manufacturer's Designation").

X. Mechanical: Other terms including "HVAC", "Plumbing", "Sprinkler", "Laboratory Equipment", "Food Service Equipment", "Laundry Equipment", and "Refrigeration" have the same meaning as "Mechanical".

Y. Owner: South Orangetown Central School District.

Z. Piping: This term includes pipe, tube and appurtenant fittings, flanges, valves, traps, hangers and supports.

AA. Piping, Concealed: Piping built into construction and not accessible without removal of construction Work such as masonry, plaster or other finish material, and piping installed in floors, furred spaces, suspended ceilings, non-walk-in tunnels, conduits, and behind removable panels and cabinet doors.

BB. Piping, Distribution: Domestic water supply piping, starting with a connection to service piping, and continuing throughout the building to point of connection to equipment and fixture supply piping.

CC. Piping, Exposed: Piping directly accessible by normal accesses without removal of any construction Work or material.

DD. Piping, Service: Underground domestic water supply piping with a connection to a water main or supply as noted, and continuing to and into a building and terminating with the exposed fitting inside the building.

EE. Piping, Tunnel: Piping installed in walk-in or non-walk-in tunnels or conduits up to first shut-off valve inside building.

FF. Plumbing System: Includes the water supply and distribution pipes; plumbing fixtures and traps; water-treating or water-using equipment; soil, waste and vent pipes; and sanitary and storm sewers and building drains, in addition to their respective connections, devices and appurtenances within a structure or premises.

GG. Product: As used includes materials, systems and equipment.

HH. Registered Design Professional: An individual who is a registered architect (RA) in accordance with Article 147 of the New York State Education Law or a licensed professional engineer (PE) in accordance with Article 145 of the New York State Education Law.

II. Space, Finished: A space which has a finishing material applied to walls or ceilings, such as paint, plaster, ceramic tile, enamel glazing, face brick, vinyl wall covering, etc. to provide a finished appearance or which will have such finishes applied under a related Contract.

JJ. Space, Unfinished: A space which does not meet the definition of a finished space.

KK. Special Inspection: Inspection as herein required of the materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards.

LL. Steam-Heating Boiler: A boiler operated at pressures not exceeding 15 psi for steam.

MM. Supplier: Any person or organization who supplies materials or equipment for the work, including that fabricated to a special design.

NN. Utility: Any gas, steam, water, sanitary sewer, storm sewer, electrical or other such service.

OO. Water Supply System: The water service pipe, water distribution pipes, and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the structure or premises.

1. Chilled: Water-cooled by refrigeration.
2. Cold: Water with at temperature between 33 degrees F and 80 degrees F and which is neither cooled nor heated mechanically.
3. Domestic: Water for use in buildings, except water used in connection with space heating and space cooling.
4. High Temperature: Water with a supply water temperature above 350 degrees.
5. Hot: Water at a temperature greater than or equal to 110ºF.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless 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.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

D. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

AA	Aluminum Association, Inc. (The)
AABC	Associated Air Balance Council
AAALAC	Association for Assessment and Accreditation of Laboratory Animal Care
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	ACI International (American Concrete Institute)

ACPA	American Concrete Pipe Association
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)
AHA	American Hardboard Association (part of CPA)
AI	Asphalt Institute
AIA	American Institute of Architects (The)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALSC	American Lumber Standard Committee, Incorporated
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	Architectural Precast Association
APA	APA - The Engineered Wood Association
ARI	Air-Conditioning & Refrigeration Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International

AWCMA	American Window Covering Manufacturers Association (WCSC)
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
CBM	Certified Ballast Manufacturers
CCC	Carpet Cushion Council
CDA	Copper Development Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPA	Composite Panel Association
CRI	Carpet & Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CTI	Cooling Technology Institute
DHI	Door and Hardware Institute
EIA	Electronic Industries Alliance
EIMA	EIFS Industry Members Association

EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association
FM Approvals	Factory Mutual Approvals
FSA	Fluid Sealing Association
GA	Gypsum Association
GANA	Glass Association of North America
GSI	Geosynthetic Institute
HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association
HPVA	Hardwood Plywood & Veneer Association
ICEA	Insulated Cable Engineers Association, Inc
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.

IPCEA	Insulated Power Cable Engineer Associates
ISO	International Organization for Standardization
ISSFA	International Solid Surface Fabricators Association
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LEED	Leadership in Energy and Environmental Design
MBMA	Metal Building Manufacturers Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International
NADCA	National Air Duct Cleaners Association
NAIMA	North American Insulation Manufacturers Association
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute
NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association

NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	National Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NOFMA	NOFMA: The Wood Flooring Manufacturers Association
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NWWDA	National Wood Window and Door Association (WDMA)
PCI	Precast/Prestressed Concrete Institute
PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PTI	Post-Tensioning Institute

RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
SAE	SAE International
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers
SGCC	Safety Glazing Certification Council
SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SPIB	Southern Pine Inspection Bureau (The)
SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TCA	Tile Council of America, Inc.

1.5 FEDERAL GOVERNMENT AGENCIES:

A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers
CPSC	Consumer Product Safety Commission
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
GSA	General Services Administration
HUD	Department of Housing and Urban Development
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety & Health Administration
PHS	Office of Public Health and Science
SD	State Department
TRB	Transportation Research Board
USDA	Department of Agriculture
USPS	Postal Service

B. Codes, Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.

ADAAG	Americans with Disabilities Act (ADA) Accessibility Guidelines
BCNYS	Building Code of New York State
CFR	Code of Federal Regulations
DOD	Department of Defense Military Specifications and Standards
FS	Federal Specification
MILSPEC	Military Specification and Standards

1.6 NEW YORK STATE GOVERNMENT AGENCIES:

A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

DASNY	Dormitory Authority of the State of New York
DEC	Department of Environmental Conservation
DHCR	Division of Housing and Community Renewal
DOH	Department of Health
NYSDOL	New York State Department of Labor
DOS	Department of State
DOT	Department of Transportation
NYSPA	New York State Power Authority
OGS	Office of General Services
OCFS	Office of Children and Family Services

OMRD	Office of Mental Retardation and Developmental Disabilities
OPRHP	Office of Parks, Recreation and Historic Preservation
NYSED	New York State Education Department (Department of Education)
SHPO	State Historic Preservation Office
SUCF	State University Construction Fund
SUNY	State University of New York

1.7 NEW YORK STATE CODES

A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

1. BCNYS: Building Code of New York State
2. ECCNYS: Energy Conservation Code of New York State
3. PCNYS: Plumbing Code of New York State of New York State
4. MCNYS: Mechanical Code of New York State
5. FGCNYS: Fuel Gas Code of New York State
6. FCNYS: Fire Code of New York State
7. 9-NYCRR: New York State Dept. of Labor Title 9 State Building Code
8. 10-NYCRR: New York State Dept. of Labor Title 10 State Hospital Code
9. 19-NYCRR: Charter XXXIII, Sub Charter A, Uniform Fire Prevention and Building Code

1.8 OTHER TERMS OR ACRONYMS:

A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name in the following list.

1. ACM: Asbestos Containing Materials
2. ACT: Acoustical Ceiling Tile
3. ICRA: Infection Control Risk Assessment
4. LVT: Luxury Vinyl Tile
5. SFRM: Spray on Fire Resistive Materials
6. TIS: Thermal Insulation System
7. VAT: Vinyl Asbestos Tile

8. VCT: Vinyl Composition Tile
9. VQT: Vinyl Quartz Tile

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 014529

ASBESTOS TESTING LABORATORY SERVICES (NYS)

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Air monitoring services for asbestos removal provided by the Owner.
2. Security expenses incurred by the District when building is unoccupied.

B. Related Sections:

1. Division 01 Section "Summary" for use of premises and Owner-occupancy requirements.
2. Division 01 Section "Temporary Facilities and Controls" for general temporary construction and environmental-protection measures for demolition operations.
3. Division 02 Section “Asbestos Remediation” for air monitoring required by OSHA and other monitoring requirements within work areas.

1.2 PERFORMANCE REQUIREMENTS

A. General: Provide air monitoring for the Owner to verify that the building areas beyond the asbestos abatement work areas and the exterior environment remain uncontaminated.

1. Upon completion of abatement activities, verify that elevated airborne fiber count encountered during abatement operations have been reduced to an acceptable level.

B. Regulatory Requirements: Comply with the current and applicable portions of the following:

1. New York State Regulations:
   a. 12NYCRR56, referred to as “Code Rule 56” of the NYS Codes, Rules and Regulations (Statutory Authority: New York State Labor Law Section 906).
      1) Exception: Variances obtained in accordance with Article 30 of the Labor Law.
   b. New York State School Asbestos Safety Act (SASA).
2. Regulations and Requirements of Federal Agencies:
   a. Occupational Safety and Health Administration (OSHA).
   b. United States Environmental Protection Agency (EPA).
   c. 40 CFR Part 763 Subpart E (AHERA) Appendix A unless permitted otherwise by the N.Y. State Department of Labor, EPA, and the Owner's Representative.

1.3 SUBMITTALS

A. Proposed Materials and Equipment: List by brand name and model number including, but not necessarily limited to, the following:

1. Sampling pumps.
2. Sampling stands.
3. Flow meters.
4. Sample cassettes.
5. Sample filters.
6. Aggressive sampling equipment.
7. Microscopes.

B. Qualification Data: For qualified testing laboratory, including the following:

1. Current NYS Asbestos Contractor's License.
2. Certificate of the Environmental Laboratory Approval Program (ELAP).
3. List of the names, addresses and telephone numbers of all laboratory technical personnel employed on the project.
4. Current State and Federal licenses and certifications, analyst qualifications, respirator fit tests and medical screenings for all personnel.
5. Lab CIH and field supervisor CIH's, ABIH and/or PIH's Certificate.

C. Sampling Plan: Proposed plan for sampling based on the air monitor's understanding of the project. The plan shall include:

1. Number and type of samples to be collected on each date.
2. Proposed methodologies for collection and analyzing samples.

D. References: Not less than three (3) three names and telephone numbers from New York State Public School Districts (K-12) in which asbestos project consultation has been approved.

1.4 QUALITY ASSURANCE

A. Daily Recordkeeping:

1. For all records, each sheet shall include all necessary "who, what, when, how" data by minimally including project, work area, location, dates, times, type, person doing the work, applicable observations, and sample I.D. instruments used.

2. Field sheets shall be kept for each sample during collection. Field sheets shall additionally include start/stop times of pumps, sample I.D. number, air volumes, machine used, filters, calibration data, Owner's Representative sign-off, etc. For exterior samples, include temperature, wind speed and direction, and precipitation data.
3. A chain of custody form shall be initiated for each sample in the field. The form shall be kept with the sample and updated as the sample changes possession.
4. Samples will be logged in at the laboratory, and a separate lab sheet (or combined with field sheet) shall be kept, for all lab data, for each sample, equipment used, count, methodology, calculations and interpretations.
5. Daily field sheets, lab analysis and chain of custody sheets, for each work area set of samples, shall be kept together with a summary cover sheet indicating general data above, specific fiber counts for each sample, plus applicable calculations, status of blanks, and interpretations of "pass" or "failed". Phone notification data shall also be included. These shall all be stapled together at the upper left-hand corner. This shall comprise a "Daily Progress Report" for that work area.
6. This Recordkeeping format shall also apply to samples taken prior to commencement of work and for final air clearance.

B. Documentation:

1. Weekly Air Monitoring Results: At the beginning of each week (Monday) written summary results of the prior week’s air samples shall be submitted to the School District's Environmental Safety Office. Each work area shall have a summary of daily analysis including a listing of counts for each sample with locations indicated and interpretation results.
2. Close-out Documentation: Within (2) two weeks from the completion of the project, the air monitoring contractor shall submit three (3) three bound copies of a final report; (1) one copy to the Project Inspector, (2) two copies to the School District's Environmental Safety Office. The final reports shall be broken down by each work area including:
   a. Project Executive Summary per work area including an overall project description, a summary "Daily Progress Reports", dates of non-compliance, reasons, actions taken by Asbestos Abatement Contractor to bring into compliance. Final air clearance interpretation.
   b. "Daily Progress Reports” includes field logs, calculations, lab logs, counts, interpretations, chain of custody documents. All organized consecutively by days.
   c. Final Clearance PCM Sample Results, counts, calculations, and interpretations.
   d. Final Clearance TEM Sample Results, counts, calculations, and interpretations.

e. Floor plans for each work area identifying exact sample locations including separate drawings for pre-abatement, during abatement, and final clearance sampling.

f. Certified Industrial Hygienist Certification (Stamp).

g. Air sample pump and rotometer calibration records.

h. A copy of all start of work submittals required in the SUBMITTALS article of this Section.

C. Worker Protection:

1. The air-monitoring contractor shall supply all air-sampling technicians with the proper respiratory protection and training.
2. The air-sampling technicians shall enter and exit the work areas using the protocols established for personal decontamination for asbestos projects.

D. Supervision: Supervise and certify by a CIH or a Professional Industrial Hygienist (PIH) all air monitoring practices and procedures. The PIH's responsibilities shall include:

1. Review and become familiar with the asbestos project specifications.
2. Attend at a minimum the initial pre-abatement meeting.
3. Review and document that preliminary, concurrent, and final air sampling and pump calibration techniques conform to AHERA and New York State asbestos abatement regulations.
4. Visit the project site at a minimum of one time per week, accompanied by School District's Director of Environmental Safety, to document and insure proper sampling techniques, methods and equipment are being utilized and conform to AHERA and New York State requirements.
5. Review and certify (stamp) final reports.

1.5 COORDINATION

A. General: Coordinate the activities of the air-sampling technicians with the abatement contractor and Owner's Representative.

B. Collect air samples, 24 hours a day, seven days a week, as instructed by the Owner's Representative.

1. Present the field sheet to the Owner's Representative to be initialed and dated prior to leaving the site.
2. Unless otherwise instructed by the Owner's Representative, air sampling shall be performed during the abatement contractor's shift.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. General: Provide all necessary and proper materials and equipment, canisters, filters, etc. to obtain and process air samples.

PART 3 EXECUTION

3.1 SAMPLES

A. Air sampling shall occur continuously during all shift hours of the contractors per Code Rule 56. Minimally this shall be assumed as 9 hours per day, 7 days a week.

B. The air-sampling technician shall calibrate sampling pumps on site at least once before, once at the midpoint and once after the collection of samples, and record in the field sheets.

C. Where possible, sample locations shall be at least 3-feet from any wall or column and 2-feet above the floor. Sampler shall be supported by a stand.

D. For clearance sampling, the air sampling technician shall provide aggressive air sampling per Rule 56 and as follows:

1. First direct the exhaust of a leaf blower against all walls, ceilings, floors, ledges, and other surfaces in the work area.
2. Continue agitation for at least five minutes per every 1,000 sf of floor space. Following this aggressive agitation, the air-sampling technician shall use at least one 20-inch fan per 10,000 cubic feet of work area space for continuous agitation.
3. The fan shall be operated on low speed and pointed toward the ceiling.
4. Sampling pumps shall be started after the fans are started and stopped before the fans are stopped.

3.2 ANALYSIS

A. Samples shall be logged on a permanently bound logbook at the laboratory. No whiteout will be used to make corrections.

B. All lab counts, data and analysis shall be recorded on a lab summary sheet for each sample.

C. When both TEM and PCM Clearance samples are collected, PCM samples shall be analyzed first. TEM samples will be analyzed only if PCM samples pass clearance criteria.

1. If TEM samples are analyzed, they shall be analyzed one at a time until the number of asbestos structures counted total 350, or one more sample is found to have 140 asbestos structures. If, and only if, neither of these cases is found, then all TEM samples will be analyzed.

D. Analytical Methods: The following methods shall be used in analyzing filters used to collect air samples:
   1. Cellulose ester filters (PCM) shall be analyzed using NIOSH 7400. This analysis shall be carried out at a laboratory located off the job site.
   2. Polycarbonate filers (TEM) shall be analyzed using AHERA Counting Protocol analysis per EPA.

E. If blank samples analysis causes that batch of samples to be suspect so as to cause resampling that shall be done at no cost to the Owner.

3.3 INTERPRETATIONS

A. Daily monitoring sample results shall be daily compared to all requirement levels per Rule 56. If they exceed background or .01 fibers per C.C., Air Monitoring Contractor shall fail the daily sample. If all samples are satisfactory, the summary sheet shall so indicate.
   1. Final Clearance Monitoring: Satisfactory levels.

B. For Code Rule 56 PCM Analysis: The clearance air monitoring results shall be considered satisfactory when every sample demonstrates an airborne concentration of asbestos fibers of less than 0.01 fibers per cubic centimeter, or the background level, whichever is greater.

C. For AHERA TEM Analysis: Clearance shall be satisfactory per AHERA protocols including: If the mean average of all the inside samples have asbestos structure concentrations at or below 70 s/mm' and the average airborne asbestos concentrations inside the area is not higher than the average outside calculated by the "Z" Test. All analysis to be per AHERA requirements.

D. Passing of PCM/56 criteria shall satisfy that requirement. Further work by the Asbestos Abatement Contractor, daily monitoring, and clearance retesting need only be done to satisfy the failed TEM method. If PCM/56 sampling fails, TEM samples will be discarded unanalyzed and the clearance has failed. Recleaning and resampling is required for both the PCM and TEM.

3.4 NOTIFICATION

A. Results for pre-abatement and daily abatement sampling shall be reported to the Owner's Representative and the Asbestos Abatement Contractor within 48 hours with the exception that the few final daily sample results must be reported to the Owner's Representative within 24 hours of the clearance sampling. Results for clearance sampling and roofing work area samples shall be reported to the Owner's Representative and the Asbestos Abatement Contractor within 24 hours.

B. If any daily monitoring of clearance sampling fails, the Asbestos Abatement Contractor shall immediately notify the Owner's Representative and the applicable Asbestos Abatement Contractor. The Asbestos Abatement Contractor shall make note of possible reasons for failure, and what corrective actions the Asbestos Abatement Contractor undertakes.

C. All notifications shall occur first by telephone followed by written notices. Telephone notifications shall be recorded indicating who was notified, position, time, date, telephone number, etc. Telephone notification shall only be to acceptable people approved at the beginning of the project.

D. Final air clearance results shall be sent to the Commissioner of Labor per CR-56, minimally by certified mail with copies and certificate to the Owner's Representative.

3.5 SCHEDULE OF AIR SAMPLES

A. Before start of work, verify locations and number of samples, as well as methodology for approval. Submittal shall include pre-abatement, post-abatement and during-abatement phases. Comply with Part 56.

1. Per the requirements of the New York State Education Department all Final Air Clearance Samples shall be (TEM) Transmission Electron Microscopy Methodology.

END OF SECTION

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SECTION 014533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Code-required special inspections.

B. Testing services incidental to special inspections.

C. Submittals.

D. Manufacturers' field services.

E. Fabricators' field services.

1.2 ABBREVIATIONS AND ACRONYMS

A. AHJ: Authority having jurisdiction.

B. IAS: International Accreditation Service, Inc.

C. NIST: National Institute of Standards and Technology.

1.3 DEFINITIONS

A. Code or Building Code: ICC (IBC)-2018, Edition of the International Building Code 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 Inspection:
   1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved Contract Documents and the referenced standards.
   2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

1.4 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete 2019, with Errata (2021).

B. AISC 341 - Seismic Provisions for Structural Steel Buildings 2022.

C. AISC 360 - Specification for Structural Steel Buildings 2022.

D. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures Most Recent Edition Cited by Referring Code or Reference Standard.

E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

F. ASTM A706/A706M - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement 2022a.

G. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field 2023.

H. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete 2017.

I. 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 2019.

J. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.

K. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.

L. ASTM E605/E605M - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members 2019 (Reapproved 2023).

M. ASTM E736/E736M - Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members 2019 (Reapproved 2023).

N. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestop Systems 2020a.

O. ASTM E2393 - Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers 2020a.

P. ASTM E2570/E2570M - Standard Test Methods for Evaluating Water-Resistive Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage 2007 (Reapproved 2019).

Q. AWCI 117 - Technical Manual 12-B; Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire-Resistive Materials; an Annotated Guide 2014.

R. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

S. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel 2018.

T. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars 2018, with Amendment (2020).

U. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

V. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291 2019.

W. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

X. ICC (IBC)-2009 - International Building Code 2009.

Y. ICC (IBC)-2012 - International Building Code 2012.

Z. ICC (IBC)-2015 - International Building Code 2015.

AA. ICC (IBC)-2018 - International Building Code 2018.

BB. SDI (QA/QC) - Standard for Quality Control and Quality Assurance for Installation of Steel Deck 2017.

CC. SJI 100 - Standard Specifications for K-Series, LH-Series, and DLH-Series Open Web Steel Joists, and for Joist Girders 2020.

DD. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures 2016.

1.5 SUBMITTALS

A. See Section 013300 Submittal Procedures, for submittal procedures.

B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency is required to:
   1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
   3. Submit certification that Special Inspection Agency is acceptable to AHJ.
   4. Submit documentation that Special Inspection Agency is accredited by IAS according to IAS AC291.

C. Testing Agency Qualifications: Prior to the start of work, the Testing Agency is required to:

1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
3. Submit certification that Testing Agency is acceptable to AHJ.
4. Submit documentation that Testing Agency is accredited by IAS according to IAS AC89.

D. Manufacturer's Qualification Statement: Manufacturer is required to submit documentation of manufacturing capability and quality control procedures. Include documentation of AHJ approval.

E. Fabricator's Qualification Statement: Fabricator is required to submit documentation of fabrication facilities and methods as well as quality control procedures. Include documentation of AHJ approval.

F. Fabricator Special Inspection Reports: After each special inspection of fabricated items at the Fabricator's facility, Special Inspector is required to promptly submit at least two copies of report; one to Architect and one to AHJ.
1. Include:
   a. Date issued.
   b. Project title and number.
   c. Name of Special Inspector.
   d. Date and time of special inspection.
   e. Identification of fabricated item and specification section.
   f. Location in the Project.
   g. Results of special inspection.
   h. Verification of fabrication and quality control procedures.
   i. Compliance with Contract Documents.
   j. Compliance with referenced standard(s).

G. Test Reports: After each test or inspection, promptly submit at least two copies of report; one to Architect and one to AHJ.
1. Include:
   a. Date issued.
   b. Project title and number.
   c. Name of inspector.
   d. Date and time of sampling or inspection.
   e. Identification of product and specifications section.
   f. Location in the Project.
   g. Type of test or inspection.
   h. Date of test or inspection.
   i. Results of test or inspection.
   j. Compliance with Contract Documents.

H. Certificates: When specified in individual special inspection requirements, Special Inspector shall submit certification by the manufacturer, fabricator, and installation subcontractor to Architect and AHJ, in quantities specified for Product Data.
1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect and AHJ.

1.6 SPECIAL INSPECTION AGENCY

1.7 TESTING AND INSPECTION AGENCIES

A. Owner or Architect 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.

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

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.

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.

C. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
   1. Continuous Special Inspection: Special Inspection Agency is required to be present in the area where the work is being performed and observe the work at all times the work is in progress.
   2. Periodic Special Inspection: Special Inspection Agency is required to be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.2 SPECIAL INSPECTIONS FOR STEEL CONSTRUCTION

A. Structural Steel: Comply with quality assurance inspection requirements of ICC (IBC)-2018.

B. Cold-Formed Steel Deck: Comply with quality assurance inspection requirements of SDI (QA/QC).

C. High-Strength Bolt, Nut and Washer Material:
   1. Verify identification markings comply with ASTM standards specified in the approved contract and to AISC 360, Section A3.3; periodic.
   2. Submit manufacturer's certificates of compliance; periodic.

D. High-Strength Bolting Installation: Verify items listed below comply with AISC 360, Section M2.5.
   1. Snug tight joints; periodic.
   2. Pretensioned and slip-critical joints with matchmarking, twist-off bolt or direct tension indicator method of installation; periodic.
   3. Pretensioned and slip-critical joints without matchmarking or calibrated wrench method of installation; continuous.

E. Structural Steel and Cold Formed Steel Deck Material:
   1. Structural Steel: Verify identification markings comply with AISC 360, Section M3.5; periodic.

2. Other Steel: Verify identification markings comply with ASTM standards specified in the approved Contract Documents; periodic.
3. Submit manufacturer's certificates of compliance and test reports; periodic.

F. Weld Filler Material:
1. Verify identification markings comply with AWS standards specified in the approved Contract Documents and to AISC 360, Section A3.5; periodic.
2. Submit manufacturer's certificates of compliance; periodic.

G. Welding:
1. Structural Steel and Cold Formed Steel Deck:
a. Complete and Partial Joint Penetration Groove Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
b. Multipass Fillet Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
c. Single Pass Fillet Welds Less than 5/16 inch (7.94 mm) Wide: Verify compliance with AWS D1.1/D1.1M; periodic.
d. Plug and Slot Welds: Verify compliance with AWS D1.1/D1.1M; continuous.
e. Single Pass Fillet Welds 5/16 inch (7.94 mm) or Greater: Verify compliance with AWS D1.1/D1.1M; continuous.
f. Floor and Roof Deck Welds: Verify compliance with AWS D1.3/D1.3M; continuous.
2. Reinforcing Steel: Verify items listed below comply with AWS D1.4/D1.4M and ACI 318, Section 3.5.2.
a. Verification of weldability; periodic.
b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames as well as where it is referenced in older codes. Elements of special structural walls of concrete and shear reinforcement; continuous.
c. Shear reinforcement; continuous.
d. Other reinforcing steel; periodic.

H. Steel Frame Joint Details: Verify compliance with approved Contract Documents.
1. Details, bracing and stiffening; periodic.
2. Member locations; periodic.
3. Application of joint details at each connection; periodic.

3.3 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

A. Reinforcement, Including Prestressing Tendons, and Verification of Placement: Verify compliance with ACI 318, Chapters 20, 25.2, 25.3, 26.6.1-26.6.3; periodic.

B. Anchors Cast in Concrete: Verify compliance with ACI 318; periodic.

C. Anchors Post-Installed in Hardened Concrete: Verify compliance with ACI 318.
1. Adhesive Anchors: Verify horizontally or upwardly-inclined orientation installations resisting sustained tension loads - Section 17.8.2.4; continuous.
2. Other Mechanical and Adhesive Anchors: Verify as per Chapter 17.8.2; periodic.

D. Design Mix: Verify plastic concrete complies with the design mix in approved Contract Documents and with ACI 318, Chapter 19, 16.4.3, 26.4.4; periodic.

E. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172/C172M, ASTM C31/C31M and ACI 318, Chapter 26.5, 26.12, and record the following, continuous:
1. Slump.
2. Air content.
3. Temperature of concrete.

F. Concrete: Verify application techniques comply with approved Contract Documents and ACI 318, Chapter 26.5; continuous.

G. Specified Curing Temperature and Techniques: Verify compliance with ACI 318, Chapter 26.5.3 through 26.5.5; periodic.

H. Formwork Shape, Location and Dimensions: Verify compliance with approved Contract Documents and ACI 318, Chapter 26.11.1.2(b); periodic.

3.4 SPECIAL INSPECTIONS FOR PREFABRICATED AND SITE-BUILT WOOD CONSTRUCTION

A. High Load Diaphragms: Verify compliance of each item below with approved Contract Documents.
   1. Grade and thickness of sheathing.
   2. Nominal size of framing members at adjacent panel edges.
   3. Nail or staple diameter and length.
   4. Number of fastener lines.
   5. Fastener spacing at lines and at edges.

B. Metal Plate Connected Wood Trusses with Clear Span of 60 feet (18.3 m) or More: Verify compliance of each item below with approved Contract Documents in general and with approved truss submittal package in particular.
   1. Temporary restraint and bracing.
   2. Permanent individual truss member restraint and bracing.

3.5 SPECIAL INSPECTIONS FOR SOILS

A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.
   1. Design bearing capacity of material below shallow foundations; periodic.
   2. Design depth of excavations and suitability of material at bottom of excavations; periodic.
   3. Materials, densities, lift thicknesses; placement and compaction of backfill: continuous.
   4. Subgrade, prior to placement of compacted fill verify proper preparation; periodic.

B. Testing: Classify and test excavated material; periodic.
   1. Anchorage of electric equipment required for emergency or standby power systems; periodic.

3.6 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
   1. Verify samples submitted by Contractor comply with the referenced standards and the approved Contract Documents.
   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. Attend preconstruction meetings and progress meetings.
   8. 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 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.

3.7 TESTING AGENCY DUTIES AND RESPONSIBILITIES

A. Testing Agency Duties:
1. Test samples submitted by Contractor.
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 standards.
4. Ascertain compliance of materials and mixes 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. Attend preconstruction meetings and progress meetings.
8. Submit reports of all tests or inspections specified.

B. Limits on Testing or 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 has no authority to stop the work.

C. On instructions by Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.

D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

3.8 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:
1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
3. 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.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Retain special inspection records.

B. Contractor Responsibilities, Seismic Force-Resisting System, Designated Seismic System, and Seismic Force-Resisting Component: Submit written statement of responsibility for each item listed in the Statement of Special Inspections to AHJ and Owner prior to starting work. Statement of responsibility shall acknowledge awareness of special construction requirements and other requirements listed.

C. Contractor Responsibilities, Wind Force-Resisting System and Wind Force-Resisting Component: Submit written statement of responsibility for each item listed in the Statement of Special Inspections to AHJ and Owner prior to starting work. Statement of responsibility shall acknowledge awareness of special construction requirements and other requirements listed.

3.9 MANUFACTURER'S AND FABRICATOR'S FIELD SERVICES

A. When specified in individual specification sections, require material suppliers, assembly fabricators, or product manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, to test, adjust, and balance equipment and _____ as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect 30 days in advance of required observations.
   1. Observer subject to approval of Architect.
   2. Observer subject to approval of Owner.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.10 STATEMENT OF SPECIAL INSPECTIONS

A. Refer to attached form, “Statement of Special Inspections”, at the end of this section.

B. Refer to attached, “Schedule of Special Inspections”, at the end of this section.

3.11 SPECIAL INSPECTION REPORTS

A. Report Requirement: Special Inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the code enforcement official, and to the registered design professional in responsible charge.
   1. Reports shall indicate that work inspected was done in conformance to approved construction documents.
   2. Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the code enforcement official and to the registered design professional in responsible charge prior to the completion of that phase of the work.

B. Periodic Report: On the first day of each month, the special inspector shall furnish to the Architect five copies of the combined progress reports of the special inspector's observations. These progress reports shall list all special inspections of construction or reviews of testing performed during that month, note all uncorrected deficiencies, and describe the corrections made both to these deficiencies and to previously reported deficiencies.
   1. Each monthly report shall be signed by all special inspectors who performed special inspections of construction or reviewed testing during that month, regardless of whether they reported any deficiencies.
   2. Each monthly report shall be signed by the Contractor.

C. Final Report: At completion of construction, each special inspector shall prepare and sign a final report attesting that all work they inspected and all testing and test reports they reviewed were completed in accordance with the approved construction documents and that deficiencies identified were satisfactorily corrected.
   1. The Special Inspector shall submit a combined final report containing the signed final reports.
   2. The Contractors shall sign the combined final report attesting that all final reports of special inspectors that performed work to comply with these construction documents are contained therein, and that the Contractor has reviewed and approved all of the individual inspector's final reports.
   3. Refer to attached form, “Special Inspections Report”, attached at the end of this section.

STATEMENT OF SPECIAL INSPECTIONS

Name of Project:
Address or Legal Description:
Owner's Name:
AUTHORITY HAVING JURISDICTION:
I , as the Owner's ,or Agent of the Owner (contractors may not employ the Special Inspector), certify that I or architect/engineer of record, will be responsible for employing the special inspector(s) as required by the Building Code of New York State for the construction project located at the site listed above.
Signed:
I , as the structural engineer of record, certify that I have prepared the following special inspections program as required by the Building Code of New York State for the construction project located at the site listed above.
Printed Name:

	Seal Signature: Date:
List of work requiring special inspections: See following schedule.	

SPECIAL INSPECTIONS REPORT

Report Type: ____Continuous ____Periodic ____Final
Work/Material Inspected:
Project Name:
Address or Legal Description:
Owner's Name:
Phone:
email:
Approved Inspection Agency:
Address:
Phone:
email:
Authority Having Jurisdiction:
Address:
Phone:
email:
Registered Design Professional of Record:
Address:
Phone:
email:
Statement of Conformance:
Discrepancies:
____None
Contractor review:
Contractor signature:
Contractor correction:
Outstanding Discrepancies:
____None
Authority Having Jurisdiction review:
Registered Design Professional review:

END OF SECTION

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SECTION 01 5001
TEMPORARY FACILITIES & CONTROLS-MULTIPLE PRIME CONTRACTS

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection for Multiple Prime Contract projects.

B. Temporary utilities include, but are not limited to, the following:
1. Water service and distribution.
2. Temporary electric power and light.
3. Temporary heat.
4. Ventilation and Humidity Control
5. Telephone service.
6. Sanitary facilities, including drinking water.
7. Storm and sanitary sewer.

C. Support facilities include, but are not limited to, the following:
1. Field offices and storage containers.
2. Temporary roads and paving.
3. Dewatering facilities and drains.
4. Temporary partitions and enclosures.
5. Hoists and temporary elevator use.
6. Temporary project identification sign and project signage.
7. Waste disposal services and dumpsters.
8. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities include, but are not limited to, the following:
1. Temporary fire protection.
2. Barricades, warning signs, and lights.
3. Environmental protection.
4. Tree and plant protection.
5. Security enclosure and lockup.
6. Temporary enclosures.
7. Temporary partitions.
8. Sidewalk Bridge for maintaining legal exits.
9. Enclosure fence for the work site.
10. Environmental Protection

E. Related Sections:
1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.

1.02 INFORMATIONAL SUBMITTALS

A. Temporary Utilities: Each prime contractor shall submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.

B. Implementation and Termination Schedule: Within 15 days of the date established for submittal of the Contractor's Construction Schedule, each prime contractor shall submit a schedule indicating implementation and termination of each temporary utility for which the Contractor is responsible.

C. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

D. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent

E. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

F. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage, including delivery, handling, and storage provisions for materials subject to water absorption or water damage, discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water damaged Work.
   1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
   2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
   3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

G. Dust-Control and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust-control and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
   1. Locations of dust-control partitions at each phase of the work.
   2. HVAC system isolation schematic drawing.
   3. Location of proposed air filtration system discharge.
   4. Other dust-control measures.
   5. Waste management plan.

H. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.03 DEFINITIONS

A. Temporary Enclosure: As determined by Architect, temporary roofing is complete, insulated, all exterior wall openings are closed with temporary closures.

B. Permanent Enclosure: As determined by Architect, permanent roofing is complete, insulated, and weather tight; exterior walls are insulated and weather tight; and all openings are closed with permanent construction or substantial temporary closures.

C. Temporary Facilities: Construction, fixtures, fittings, and other built items required to accomplish the work but which are not incorporated into the finished work.

D. Temporary Utilities: A type of temporary facility, primary sources of electric power, water, natural gas supply, etc., obtained from public utilities, other main distribution systems, or temporary sources constructed for the project, but not including the fixtures and equipment served.

E. Temporary Services: Activities required during construction, which do not directly accomplish the work.

1.04 QUALITY ASSURANCE

A. Regulations: The contractor shall comply with industry standards and with applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
   1. Building code requirements.

2. Health and safety regulations.
3. Utility company regulations.
4. Police, fire department and rescue squad rules.
5. Environmental protection regulations.

B. Standards: The Contractor shall comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."

C. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with the normal application of trade regulations and union jurisdictions.

D. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.05 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
1. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
2. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
3. Gas Service from Existing System: Gas Service from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

B. Cost or use charges for temporary facilities are not chargeable to the Owner or the Architect. The Architect will not accept a prime contractor's cost or use charges for temporary services or facilities as a basis of claim for an adjustment in the Contract Sum or the Contract Time.

C. Other entities using temporary services and facilities include, but are not limited to, the following:
1. Other nonprime contractors.
2. The Owner's work forces.
3. Occupants of the Project.
4. The Architect.
5. The Construction Manager.
6. Testing agencies.
7. Personnel of government agencies.

1.06 PROJECT CONDITIONS

A. Temporary Utilities: Each prime contractor shall prepare a schedule indicating dates for implementation and termination of each temporary utility for which the Contractor is responsible. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.

B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

C. Temporary Use of Permanent Facilities: If the Owner permits temporary use of the permanent facilities the Installer of each permanent service shall assume responsibility for its operation, maintenance, and protection during use as a construction facility prior to the Owner's acceptance, regardless of previously assigned responsibilities.

1.07 DIVISION OF RESPONSIBILITIES

A. General: These Specifications assign each prime contractor specific responsibilities for providing certain temporary facilities used by other prime contractors and other entities at the site. The Contractor for General Construction is responsible for providing temporary facilities and controls that are not normal construction activities of other prime contractors and are not specifically assigned otherwise by this specification.

B. EACH PRIME CONTRACTOR is responsible for the following:
   1. Installation, operation, maintenance, and removal of each temporary facility usually considered as its own normal construction activity, as well as the costs and use charges associated with each facility.
   2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
   3. Its own field office complete with necessary furniture, utilities, and telephone service.
   4. Its own storage containers for tools and storage of materials not incorporated into the building construction.
   5. Dewatering for their own construction operations.
   6. Temporary heat, ventilation, humidity control, and enclosure of the building prior to “Permanent Enclosure” where these facilities are necessary for its construction activity to protect the work but have not yet been completed by the responsible prime contractor.
      a. Temporary ventilation to control temperature and humidity is required by the Contractor responsible for installing the specified finish and equipment as these finishes may be damaged be excessive humidity or promote the growth of mold. The permanent HVAC system shall not be relied upon to provide the necessary ventilation or conditioning of the humidity in the building. Each Contractor is required to protect their work in place and provide the necessary ventilation and or humidity control.
   7. Temporary Generator if electrical power is not been installed to the site.
   8. Collection and disposal of its own hazardous, dangerous, unsanitary, or other harmful waste material.
   9. Daily cleaning includes collection of its waste material and transporting to a dumpster and daily sweeping.
   10. Secure lockup of its own tools, materials, and equipment.
   11. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

C. The General Construction Contractor is responsible for the following:
   1. Temporary Sewers
   2. Temporary water service
   3. Erosion control
   4. Temporary roads and Parking areas unless otherwise noted.

5. Barricades, warning signs, and lights.
6. Dumpsters for the use by all trades on this project.
7. Dust control for site work
8. Snow and ice removal from all site construction areas.
9. Temporary field offices for the Architect's representative and the Owner.
10. Temporary telephone and Internet service for the Architect's representative and the Owner.
11. Containerized bottled-water drinking-water units for the Architect's representative and the Owner.
12. Electronic Communication Service for the Architect's representative and the Owner. See Support Facilities.
13. Containerized tap dispenser drinking-water with paper cup supply for their workers.
14. Barricades, warning signs, and lights related to the building work.
15. Temporary security fencing as shown on the Phasing Plans...
16. Temporary safety railings and stairs.
17. Temporary toilets, including disposable supplies.
18. Temporary enclosure of the building's roof windows and doors. Prior to "Permanent Enclosure"
19. Temporary Ventilation and Humidity Control: Provide temporary ventilation in areas of confined space. Provide Dehumidification units where required upon building enclosure to protect installed finishes and moisture sensitive building materials.
20. Temporary partitions indicated on drawings or specifically called for in specifications, required for project phasing or necessary to perform the work.
21. Temporary flooring and doors as required.
22. Project Identification signage, directional signage and safety signage.

D. The Plumbing Contractor is responsible for the following:
1. Piped temporary water service from 5" ft. outside the building to a point inside the building.
2. Temporary gas service.
3. Temporary gas service to building heating units after temporary or permanent enclosure.
4. Temporary piping for roof drains not permanently connected.
5. Temporary sewers and drainage from 5" ft. outside the building to a point inside the building

E. The Mechanical/ HVAC Contractor is responsible for the following:
1. Temporary Heat after "Permanent Enclosure" where the permanent heating system is not ready for use or cannot be used including fuel costs.
2. Temporary heat, upon "Permanent Enclosure" of the building, including fuel costs.
3. Temporary Ventilation and Humidity Control: Provide temporary ventilation in areas of confined space. Provide Dehumidification units where required upon building enclosure to protect installed finishes and moisture sensitive building materials.

F. The Electrical Contractor is responsible for the following:
1. Temporary electric power service and branch distribution.
2. Temporary generator.
3. Temporary site lighting.
4. Temporary lighting.
5. Energizing and de-energizing of temporary panels for the abatement contractor(s).
6. Electric Power Service: Use electric power from the Owner's existing system without metering and without payment of use charges.

7. Electric Power Service: The Electrical Contractor shall pay electric power service use charges, whether metered or otherwise, for electricity used by the project office trailers at the Project Site.

1.08

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Each prime contractor shall provide new materials, unless noted otherwise on drawings. If acceptable to the Architect, undamaged, previously used materials in serviceable condition may be used. Provide materials suitable for use intended.

B. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."
   1. For job-built sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
   2. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch-thick exterior plywood.

C. Gypsum Wallboard: Provide 5/8 type x gypsum wallboard on interior walls of temporary offices or temporary partitions.

D. Roofing Materials: Provide UL Class A standard-weight asphalt shingles or UL Class C mineral-surfaced roll roofing on roofs of job-built temporary offices, shops, and sheds.

E. 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.

F. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

G. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

H. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

I. Water: Provide potable water approved by local health authorities.

J. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts.

K. Open-Mesh Fencing: Provide 0.12-inch- thick, galvanized 2-inch chain link fabric fencing 6 feet high and galvanized steel pipe posts, 1-1/2 inches I.D. for line posts and 2-1/2 inches I.D. for corner posts.

2.02 EQUIPMENT

A. General: Each prime contractor shall provide new equipment. If acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.

B. Water Hoses: Provide 3/4-inch heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.

C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

D. Electrical Power Cords: Provide grounded extension cords. 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. Do not exceed safe length-voltage ratio.

E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.

F. Heating and ventilating units: Provide temporary heating and ventilating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
   1. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
      a. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
      b. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
      c. Retain MERV of 8 for LEED-NC or LEED-CI Credit EQ 3.1.
   2. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return air grille in system and remove at end of construction and clean HVAC system as required in Division 01 Section "Closeout Procedures".
   3. Air Filtration Units: HEPA primary and secondary filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

G. Temporary Toilet Units: The General Contractor shall provide self-contained, single-occupant toilet units of the chemical, aerated recirculation type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

H. Fire Extinguishers: Each prime contractor will provide hand-carried, portable, UL-rated; Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
   1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

2.03 TEMPORARY SUPPORT FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Temporary Field Offices: Each prime contractor shall provide its own prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
   1. Store combustible materials apart from building.

2.04 TEMPORARY UTILITIES

A. Temporary Sewer Service: The Contract for General Construction Contractor work is responsible for temporary sewer service until the permanent services are installed.

1. This work includes but is not limited to excavation and backfill, holding tanks, freeze protection, disinfection and coordination with the sewer purveyor.]

B. Temporary Water Service: The Contract for Plumbing Contractor work is responsible for temporary water service to the building until the permanent services are installed.
   1. This work includes but is not limited to excavation and backfill, tapping sleeves, temporary metering, freeze protection, disinfection and coordination with the water purveyor.

C. Temporary Gas Service: The Contract for Plumbing work is responsible for temporary gas service to the building until the permanent services are installed.
   1. This work includes but is not limited to excavation and backfill, temporary metering, and coordination with the gas purveyor.

D. Temporary Electric Service: The Contract for Electric work is responsible for temporary electric service to the building until the permanent services are installed.
   1. This work includes but is not limited to temporary utility poles, temporary metering, weather protected temporary panel with disconnect and coordination with the electric purveyor.

E. Telephone Service: Each contractor is responsible for his or her own telephone service.
   1. Provide at least one telephone at each site with answering machine.
      a. Display construction-related phone numbers at each phone.
         1) Fire emergency number.
         2) Rescue emergency number.
         3) Physician.
         4) Prime Contractors' home offices.
         5) Owner's representative.
         6) Architect's representative
   2. Equip each project superintendent/ foremen with a cellular telephone. This person shall be able to receive emergency calls 24 hrs. a day, 7 days a week.

PART 3 EXECUTION

3.01 INSTALLATION

A. Use 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.

B. Each prime contractor shall 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.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
   1. Arrange with the company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
   2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
   3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.

B. Use 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.

C. The contractor shall 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.

D. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
   1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

E. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged.
   1. Filter out excessive amounts of soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
   2. Connect temporary sewers to the municipal system as directed by sewer department officials.
   3. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.

F. Sanitary Facilities: The General Contractor will provide temporary toilets for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
   1. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
   2. Provide toilet tissue, paper towels, and similar disposable materials for each facility. Provide covered waste containers for used material.

G. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to the Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

H. Drinking-Water Facilities: Each Contractor shall provide containerized, tap-dispenser, drinking-water units, including paper cup supply.

I. Temporary Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
   1. Connect temporary service to Owner's existing power source, as directed by Owner.

J. Temporary Electric Power Service: The Electrical Contractor will provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics at each building addition and maintain them during construction period. Include overload-protected disconnects, automatic ground-fault interrupters.
   1. Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations. Provide electric power for all other trades special equipment requiring power.
   2. Install electric power service underground, except where overhead service must be used.
   3. Power Distribution System: Install wiring overhead and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 V, ac 20 ampere rating, and lighting circuits may be nonmetallic-sheathed cable where overhead and exposed for surveillance.
   4. The Electrical Contractor will provide temporary power in the areas of renovation where the existing receptacles have been removed and the proximity to power source exceeds 50’.

5. The Electrical Contractor will provide temporary engine generator sufficient to meet the demands of the construction work in progress when power has been temporarily disconnected or is required to keep existing building in operation during main electrical survive work.
6. The Electrical Contractor will provide temporary power to the office trailers at the Project Site. All costs associated with providing utility poles, metering and utility company charges are included in the cost. Monthly costs for electric are the responsibility of the Electrical Contractor.
7. Temporary Lighting: The Electrical Contractor will install and operate temporary lighting that will fulfill security and protection requirements without operating the entire system. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.
    a. When an overhead floor or roof deck has been installed, The Electrical Contractor will provide temporary lighting with local switching.
    b. Security lighting for building exteriors shall be continuously operational and maintained.
    c. Temporary lighting shall be maintained in accordance with OSHA standards for power and foot candle levels in all areas while workers occupy the space
    d. The Electrical Contractor will provide temporary lighting in the areas of renovation where the existing fixtures have been removed and the new lighting has not been installed.

K. Temporary Heat: Each prime contractor will provide temporary heat required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize energy consumption. Direct fired propane or Kerosene salamanders will not be permitted.

L. Upon “Permanent Enclosure” of the building as determined by Article 1.3 the General Construction Contractor shall provide temporary heat until the permanent heating system can be utilized.
    1. Temporary Heat: Provide temporary heat in all existing areas that are under construction and/or have their permanent heat temporarily or permanently shut off for construction reasons.
    2. Provide temporary heat in all new construction areas as soon as each area of new construction is fully enclosed: walls, roofs, insulation, and either windows and doors or temporary windows and doors.
    3. Temporary heat provided shall be sufficient to maintain all areas of new, fully enclosed construction (and renovated areas of existing construction that, due to construction, are temporarily without permanent heat), including concealed ceiling or chase spaces, to a minimum 50 degrees F, 24 hours a day, in winter weather as cold as 15 degrees F outside.
    4. Temporary heat must not damage any materials, new or existing, within or without the Project limits, on school property, nor shall it cause noxious odors or fumes or some other nuisance.
    5. Temporary heat must be installed, operated, maintained, and dismantled in a safe, legal manner.
    6. Provide adequate ventilation as required by Codes and labor laws in all areas of Project limits as part of the work of this Section.

M. Heating Facilities: Except where the Owner authorizes use of the permanent system, the General Construction Contractor will provide vented, indirect fired, self-contained, LP-gas or fuel oil heaters with individual space thermostatic control.
   1. Use of direct-fired Kerosene-burning space heaters, open flame, or salamander-type heating units is prohibited.
   2. Protect all permanent equipment put into services from dust, dust infiltration and soiling by installing filtering media at each supply and return outlet. Filters shall be changed in all air handling equipment including unit vents prior to owner occupancy. Failure to provide the necessary protection to the equipment may result in the contractor to be charged to clean the equipment and associated ductwork.

N. Ventilation and Humidity Control: The General Construction Contractor will provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
   1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

O. Temporary Telephones: Each prime contractor will require Project Superintendents / Forman to carry cellular phones. The telephones shall be provided throughout the construction period for all personnel engaged in construction activities.

P. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
   1. Prior to commencing work, The Mechanical/ HVAC Contractor will isolate the HVAC system in area where work is to be performed in accordance with approved coordination drawings.
      a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
      b. The General Contractor will maintain negative air pressure within work area using HEPA-equipped air filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
   2. The General Contractor will maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust containment devices.
   3. Each Contractor will perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

3.03 SUPPORT FACILITIES INSTALLATION

A. Each prime contractor will locate field offices, storage trailers, sanitary facilities, and other temporary construction and support facilities for easy access.
   1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
   2. Refer to the phasing plans for locations of storage trailers.

B. Field Offices: Each prime contractor shall provide an insulated, weather tight temporary office of sufficient size to accommodate required office personnel at the Project Site. Keep the office clean and orderly for use for small meetings. Furnish and equip offices as follows:
   1. Furniture: Furnish with a desk and chairs, a 4-drawer file cabinet, plan table, plan rack, and a 6-shelf bookcase.

2. Equip with a water cooler
3. The Contractor for General Construction shall provide, either as a part of its field office or as a separate facility, a room of not less than 240 sq. ft. for project meetings. Furnish the room with a conference table, 12 folding chairs, and a tack board.

C. Storage trailers/ containers: Each prime contractor will install storage containers equipped to accommodate materials and equipment involved. Storage trailers are to be located at each site in the designated staging areas located on the phasing plans.

D. Temporary Roads and Parking areas: Unless otherwise noted on the drawings or phasing plans the General Construction Contractor will construct and maintain temporary roads and parking areas to support the indicated loading adequately and to withstand exposure to traffic during the construction period. Locate temporary roads, storage areas, as indicated on the Phasing Plans.
1. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas in same location as permanent roads and paved areas. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
2. Temporary Roads and Parking areas: Use granular materials that will support the intended loading and traffic and maintain the areas throughout the construction period.
3. Install temporary paving to minimize the need to rework the installations and result in permanent roads and paved areas without damage or deterioration when occupied by the Owner.
4. Extend temporary roads in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration, and supervision.

E. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

F. Temporary Parking: Parking at most sites is limited to the staging areas and the areas adjacent the new building. Parking on the street or in owners designated lots is prohibited.

G. Temporary Parking/Staging and Access Roads
1. Construction parking will not be allowed adjacent to the buildings or project.
   a. See site plan for construction parking.
2. The General Construction Contractor will provide access for suitable parking areas. Re-grade and re-seed store any areas disturbed by parking/ staging.
   a. Parking Areas: Includes contractors' employees and construction vehicle parking. Minimum of 6-inch reference Item. #304.3 course.
   b. Access Roads: Includes access roads for delivery through staging area to building work areas, and to equipment and storage areas and sheds. Minimum of 10-feet wide, 9-inch reference Item. #304.3 course.
   c. Temporary parking by construction personnel shall be allowed only in areas so designated. Owner does not have space for construction parking in existing parking lots or roadways and will subsequently have vehicles in violation of parking prohibitions towed from site and back-charged with all fees to the Contractor.
3. Traffic Regulations:
   a. Access through Owner's entrances shall be limited
   b. Utilize only entrances/temporary roads as designated
   c. Maintain all site traffic regulations.

H. Dewatering Facilities and Drains: Each Contractor will comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
   1. The General Construction Contractor will dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
   2. The General Construction Contractor will remove snow and ice as required to minimize accumulations.

I. Collection and Disposal of Waste: Each prime contractor will collect waste from their construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. The owner will enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly.

J. The General Construction Contractor will provide waste-collection containers in sizes adequate to handle waste from construction operations. The General Construction Contractor will provide dumpsters at each site for use by all other prime and subcontractors.
   1. Comply with requirements of authorities having jurisdiction. Comply with Division 01 Section "Execution" for progress cleaning requirements.

K. Stairs: General Construction Contractor will provide temporary stairs in areas of new construction until permanent stairs are available. Provide temporary stairs where ladders are not adequate. Cover finished permanent stairs with a protective covering of plywood or similar material so finishes will be undamaged at the time of acceptance.

L. Existing Stair Usage: Use of Owner's existing stairs will be permitted, as long as stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
   1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If, despite such protection, stairs become damaged, restore damaged areas so no evidence remains of correction work.

M. Temporary Lifts and Hoists: Each prime contractor will provide facilities for hoisting materials.

N. Temporary Elevator Use: Use of the owner's existing elevators will not be permitted.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Architect.

B. Protection of Existing Facilities: Each contractor will protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

C. Environmental Protection: Each contractor will provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.. Avoid using tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.
   1. Comply with work restrictions specified in Division 01 Section "Summary."

D. Temporary Erosion and Sedimentation Control: The General Construction Contractor will provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to

erosion and sedimentation-control Drawings and requirements of EPA Construction General Permit or authorities having jurisdiction ,whichever is more stringent.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from the project site during the course of the project.
4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

E. Stormwater Control: The General Construction Contractor will comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

F. Temporary Site Lighting: The Electrical Contractor Install exterior yard and sign lights so signs are visible when Work is being performed.

G. Tree and Plant Protection: The General Construction Contractor will install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

H. Enclosure Fence: The General Construction Contractor when excavation begins will install an enclosure fence with lockable entrance gates. Install in a manner that will prevent the public and animals from easily entering the site, except by the entrance gates.

1. Provide open-mesh, 6’ high chain link fence with posts.
2. Extent of Fence: As required to enclose entire Project sites as indicated on Drawings.]
3. Provide min. 2 double swing access gates and man gates. Each gate is to have a chain and padlock.
4. Provide (2) keys for each lock to the Construction Manager.
5. Remove fence upon completion of all exterior activities or sooner if directed by Construction Manager.

I. Pest Control: The General Construction Contractor shall engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

J. Barricades, Warning Signs, and Lights: The General Construction Contractor will comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

K. Temporary Signs: The General Construction Contractor will prepare signs to provide directional information to construction personnel and visitors for each site. Unauthorized signs are not permitted.

1. For construction traffic control/flow at entrances/exits, as designated by the Owner.
2. For warning signs as required
3. Per OSHA standards as necessary
4. For trailer identification
5. For “No Smoking” safe work site at multiple locations

L. Temporary Egress: The General Construction Contractor will maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

M. Covered Walkway: Where required during the progress of the work the General Construction Contractor will erect a structurally adequate, protective covered walkway for safe passage required at legal exits. Coordinate with entrance doors, access to construction areas, excavations and obstructions. Comply with regulations of authorities having jurisdiction.
   1. Construct covered walkways using scaffold or shoring framing. Provide wood plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage. Extend the back wall beyond the structure to complete the enclosure fence. Paint and maintain in a manner acceptable to the Owner and the Architect.
   2. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
   3. Paint and maintain appearance of walkway for duration of the Work.

N. Temporary Enclosures: Each prime contractor will provide temporary enclosure for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
   1. Where heat is needed and the “Permanent Enclosure” is not complete, the contractor responsible for the work will provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
   2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 sq. ft. or less with plywood or similar materials.
   3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
   4. Where temporary wood or plywood enclosure exceeds 100 sq. ft. in area, use UL labeled, fire-retardant-treated material for framing and main sheathing.
   5. Temporary closures for specific openings for the contractor to perform their work are the responsibility of Contractor creating the opening and shall be installed to protect building from exterior elements.

O. Temporary Partitions: General Construction Contractor will provide floor-to-ceiling dustproof partitions to limit dust, dirt migration, fumes and noise to separate areas occupied by the Owner.
   1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
   2. Construct dustproof partitions with 2 layers of 3-mil polyethylene sheet on each side. Cover floor with 2 layers of 3-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.
      a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.
   3. Insulate partitions to provide noise protection to occupied areas.
   4. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
   5. Protect air-handling equipment.
   6. Weather strip openings.
   7. Provide walk-off mats at each entrance through temporary partition.

P. Temporary Fire Protection: Each prime contractor until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10, "Standard for Portable Fire Extinguishers," and NFPA 241, "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
   1. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
   2. Prohibit smoking in construction areas.
   3. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
   4. 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.
   5. Store combustible materials in containers in fire-safe locations
   6. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

Q. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire-protection system, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

R. Security Enclosure and Lockup: The General Construction Contractor will install substantial temporary enclosure of partially completed areas of construction. Provide temporary doors and locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
   1. Storage: Each prime contractor is responsible at for their materials and equipment to be stored, and are of value or attractive for theft, provide a secure lockup. Coordinate work in connection with the installation and control release of material to minimize the opportunity for theft and vandalism.

3.05 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Each Contractor is to avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
   1. Protect porous materials from water damage.
   2. Protect stored and installed material from flowing or standing water.
   3. Keep porous and organic materials from coming into prolonged contact with concrete.
   4. Remove standing water from decks.
   5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before Permanent Enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
   1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
   2. Keep interior spaces reasonably clean and protected from water damage.
   3. Periodically collect and remove waste containing cellulose or other organic matter.
   4. Discard or replace water-damaged material.
   5. Do not install material that is wet.
   6. Discard, replace or clean stored or installed material that begins to grow mold.

7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the permanent building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
   1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
   2. Use permanent HVAC system to control humidity.
   3. HVAC/Mechanical Contractor is to provide temporary dehumidification and ventilation until the building systems are operational and the spaces are substantially completed.
   4. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
      a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
      b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
      c. Remove materials that can not be completely restored to their manufactured moisture level in 48] hours.

3.06 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: 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: Maintain facilities and 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 basis where required to achieve indicated results and to avoid possibility of damage.
   2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

D. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

E. Termination and Removal: Unless the Architect requests that it be maintained longer each prime contractor will remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no 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 the property of each prime contractor.
   2. The General Construction Contractor will remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority. The

General Construction Contractor will remove any temporary paving that was noted as General Contractor on the phasing drawings or installed to execute the work.

F. At Substantial Completion: Each prime contractor shall repair, renovate, and clean permanent facilities related to their contract used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

END OF SECTION

SECTION 016000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:

1. Section 012100 - Allowances, for products selected under an allowance.
2. Section 012300 - Alternates, for products selected under an alternate.
3. Section 012500 - Substitution Procedures, for requests for substitutions.
4. Section 012519 - Equivalents, for equivalent products submitted prior to Contract award.
5. Section 014200 - Reference Standards, for applicable industry standards for products specified.

1.2 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

A. Comparable Product Requests (if allowed): After award of contract submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor through Construction Manager of approval or rejection of proposed comparable product request within (10) ten days of receipt of request, or (7) seven days of receipt of additional information or documentation, whichever is later.
    a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures". Show compliance with requirements.

1.4 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures".

PART 2 PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
   1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
   2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
   3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
   4. Where products are accompanied by the term "as selected", Architect will make selection.
   5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
   6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:
   1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   3. Products:

a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.

b. Non-restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.

b. Non-restricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 EQUIVALENT PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for equivalent product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

B. Refer to specification section 012519 "Equivalents" for additional equivalent product requirements required to be furnished by the contractor prior to execution of the contract.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 017300
EXECUTION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. Installation of the Work.
   4. Cutting and patching.
   5. Coordination of Owner-installed products.
   6. Progress cleaning.
   7. Starting and adjusting.
   8. Protection of installed construction.

B. Related Requirements:
   1. Division 01 - Summary" for limits on use of Project site.
   2. Division 01 "Submittal Procedures" for submitting surveys.
   3. Division 01 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
   4. Division 02 "Demolition" for demolition and removal of selected portions of the building.
   5. Division 07 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certificates: Submit certificate signed by land surveyor, certifying that location and elevation of improvements comply with requirements.

C. Cutting and Patching Plan: Submit plan describing procedures at least (10) ten days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

E. Certified Surveys: Submit (2) two copies signed by land surveyor.

1.4 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
    a. Operational elements include but are not limited to the following:
        1) Primary operational systems and equipment.
        2) Fire separation assemblies.
        3) Air or smoke barriers.
        4) Fire-suppression systems.
        5) Mechanical systems piping and ducts.
        6) Control systems.
        7) Communication systems.
        8) Fire-detection and -alarm systems.
        9) Conveying systems.
        10) Electrical wiring systems.
        11) Operating systems of special construction.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
    a. Other construction elements include but are not limited to the following:
        1) Water, moisture, or vapor barriers.
        2) Membranes and flashings.
        3) Exterior curtain-wall construction.
        4) Spray applied fire-resistive material.
        5) Equipment supports.
        6) Piping, ductwork, vessels, and equipment.
        7) Noise- and vibration-control elements and systems.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
   1. Description of the Work.
   2. List of detrimental conditions, including substrates.
   3. List of unacceptable installation tolerances.
   4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Construction Manager promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect and Construction Manager when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Construction Manager.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect and Construction Manager. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect and Construction Manager before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
   2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
   3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
   4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary".

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch extending to an inside or outside corner of a wall. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.8 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015001 "Temporary Facilities and Controls - Multiple Prime Contracts"

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements".

3.10 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 017700
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Substantial Completion procedures.
   2. Final completion procedures.
   3. Warranties.
   4. Final cleaning.
   5. Repair of the Work.

B. Related Requirements:
   1. Section 017300 - Execution, for progress cleaning of Project site.
   2. Section 017823 - Operation and Maintenance Data, for operation and maintenance manual requirements.
   3. Section 017839 - Project Record Documents, for submitting record Drawings, record Specifications, and record Product Data.
   4. Section 017900 - Demonstration and Training, for requirements for instructing Owner's personnel.
   5. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete. **The Architect will not perform a punch list inspection until the contractor's punch list is received and reviewed.**

B. Submittals Prior to Substantial Completion: Complete the following a minimum of (30) thirty days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Construction Manager. Label with manufacturer's name and model number where applicable.
    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Construction Manager's signature for receipt of submittals.
5. Submit test/adjust/balance records.
6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of (30) thirty days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Complete startup and testing of systems and equipment
3. Submit test/adjust/balance records.
4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
5. Perform preventive maintenance on equipment used prior to Substantial Completion. Complete startup testing of systems.
6. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training".
7. Touch up paint and otherwise repair and restore damaged finishes.
8. Complete final cleaning requirements, including touchup painting

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of (30) thirty days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
    a. The Architects basic services include (1) one initial punch list and (1) one follow-up punch list inspection to ensure all corrective action and or incomplete work has been finished. The Contractor is responsible to the Owner for all costs incurred by the Architect for additional services to provide multiple punch lists for the same work area. The cost for these additional services, may be deducted from the Contractors Contract by deduct Change Order.
2. Results of completed inspection will form the basis of requirements for final completion.

1.6 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures".
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit pest-control final inspection report.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Advise Owner of pending insurance changeover requirements.
6. Advise Owner of changeover in heat and other utilities.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
10. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
11. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
12. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.

B. Inspection: Submit a written request for final inspection to determine acceptance, a minimum of (10) ten days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
    a. Project name.
    b. Date
    c. Name of Architect and Construction Manager.
    d. Name of Contractor.
    e. Page number.
4. Submit list of incomplete items in the following format:
    a. MS Excel electronic file. Architect through Construction Manager, will return annotated file.
    b. PDF electronic file. Architect through Construction Manager, will return annotated file.
    c. Web-Based Project Software Upload: Utilize software feature for creating and updating list of incomplete items (punch list).
    d. Submit (3) three paper copies. Architect through Construction Manager, will return (2) two copies.

1.8 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within (15) fifteen days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Remove snow and ice to provide safe access to building.

f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

h. Sweep concrete floors broom clean in unoccupied spaces.

i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.

j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.

k. Remove labels that are not permanent.

l. Wipe surfaces of mechanical, electrical, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.

1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.

p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.

q. Leave Project clean and ready for occupancy.

C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities Controls".

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

END OF SECTION

SECTION 017823

OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance manuals.

B. Related Requirements:

1. Section 011200 - Multiple Contract Summary, for coordinating operation and maintenance manuals covering the Work of multiple contracts.
2. Section 013300 - Submittal Procedures, for submitting copies of submittals for operation and maintenance manuals.
3. Divisions 02 through 49 Sections for any specific closeout requirements for the Work in those Sections.

1.2 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.3 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the following format:
   1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
      a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
      b. Enable inserted reviewer comments on draft submittals.
   2. Submit (3) three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return (2) two copies.

C. Initial Manual Submittal: Submit draft copy of each manual at least (30) thirty days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least (15) fifteen days before commencing demonstration and training. Architect will return copy with comments.
   1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within (15) fifteen days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
   1. List of documents.
   2. List of systems.
   3. List of equipment.
   4. Table of contents.

B. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
   1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.

2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

C. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems".

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
   a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL", Project title or name. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.

9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents".

G. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION

SECTION 017839

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:

1. Division 01 "Multiple Contract Summary" for coordinating project record documents covering the Work of multiple contracts.
2. Division 01 "Execution" for final property survey.
3. Division 01 "Closeout Procedures" for general closeout procedures.
4. Division 01 "Operation and Maintenance Data" for operation and maintenance manual requirements.
5. Divisions 02 through 49 Sections for specific requirements for project record documents of the Work in those Sections.

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit copies of record Drawings as follows:
   a. Initial Submittal:
      1) Upload PDF electronic files of scanned prints on the Newforma Info Exchange as one submittal and one file of prints.
      2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.:
   b. Final Submittal:
      1) Submit (3) three paper-copy set(s) of marked-up record prints.
      2) Submit PDF electronic files of scanned record prints and (3) three set(s) of prints.
      3) Print each drawing, whether or not changes and additional information were recorded.

4) Submit Record Digital Data Files and (1) one set(s) of plots.

B. Record Specifications: Submit (1) one paper copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit (1) one paper copy of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit (1) one paper copy of each submittal.

E. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.3 RECORD DRAWINGS

A. Record Drawings: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record drawings to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
   a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
   b. Accurately record information in an acceptable drawing technique.
   c. Record data as soon as possible after obtaining it.
   d. Record and check the markup before enclosing concealed installations.
   e. Cross-reference record prints to corresponding archive photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
   a. Dimensional changes to Drawings.
   b. Revisions to details shown on Drawings.
   c. Depths of foundations below first floor.
   d. Locations and depths of underground utilities.
   e. Revisions to routing of piping and conduits.
   f. Revisions to electrical circuitry.
   g. Actual equipment locations.

h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order or Construction Change Directive.
k. Changes made following Architect's written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.
n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
7. Submit as indicated in the Article 1.2 final submittal.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record drawings with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
2. Format: Annotated PDF electronic file. Annotated PDF electronic file with comment function enabled.
3. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
4. Refer instances of uncertainty to Architect for resolution.
5. Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
6. Architect will furnish Contractor one set of digital data PDF files of the Contract Drawings for use in recording information.
    a. See Section 013300 "Submittal Procedures" for requirements related to use of Architect's digital data files.

1.4 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders and record Drawings where applicable.
6. Submit as indicated in the Article 1.2 final submittal.

1.5 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders and record Drawings where applicable.
4. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.
5. Submit as indicated in the Article 1.2 final submittal.

1.6 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

2. Submit as indicated in the Article 1.2 final submittal.

PART 2 PRODUCT (NOT USED)

PART 3 EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION

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SECTION 017900
DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1.2 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
   1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Qualification Data: For instructor.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.3 CLOSEOUT SUBMITTALS

A. At completion of training, submit complete training manual(s) for Owner's use, prepared and bound in format matching operation and maintenance manuals.

1.4 QUALITY ASSURANCE

A. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 - Project Management and Coordination. Review methods and procedures related to demonstration and training including, but not limited to, the following:
   1. Inspect and discuss locations and other facilities required for instruction.

2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

PART 3 EXECUTION

END OF SECTION

SECTION 020800
ASBESTOS ABATEMENT PROCEDURES

AT: SOUTH ORANGETOWN CSD –
PHASE 1: 2022 BOND WORK
WILLIAM O. SCHAEFER ELEMENTARY SCHOOL
SED#: 50-03-01-06-0-012-019
COTTAGE LANE ELEMENTARY SCHOOL
SED#: 50-03-01-06-0-010-022

OWNER: SOUTH ORANGETOWN CSD
160 VAN WYCK ROAD
BLAUVELT, NY 10913
PH. (845) 680-1000

CONSULTANT: QUALITY ENVIRONMENTAL SOLUTIONS
& TECHNOLOGIES, INC. (QUES&T)
1376 ROUTE 9
WAPPINGERS FALLS, NEW YORK 12590
PH. (845) 298-6031
FX. (845) 298-6251

SPECIFICATION DATED: October 18, 2023
Design conforms to all applicable provisions of the NYS Uniform Fire Prevention and Building Code, NYS Energy Conservation Construction Code and Education Department Building Standards.

PART I - GENRAL

1.01 DESCRIPTION

A. All work under this contract shall be performed in strict accordance with the specifications and all applicable laws for asbestos removal projects. The Abatement Contractor shall furnish all labor, materials, supervision, services, insurance and equipment necessary for the complete and total removal of Asbestos-containing Materials (ACM) as described herein, in attachments to the specification, Job Specific Variance(s) and/or as directed by South Orangetown CSD (here-in-after the "Owner") and/or the Owners Representative(s) to support the scope of work at the ***South Orangetown CSD – Phase 1:2022 Bond Work*** at the following school buildings:

- Willaim O. Schaefer Elementary School
  140 Lester Drive, Tappan, NY 10983
  SED #50-03-01-06-0-012-019

- Cottage Lane Elementary School
  120 Cottage Lane, Blauvelt, NY 10913
  SED #50-03-01-06-0-012-019

B. Abatement Contractor shall provide for personnel air monitoring to satisfy OSHA regulation 29 CFR Parts 1926.1101(f). All work performed shall be in strict accordance with applicable provisions and regulations promulgated under New York State Department of Labor, Industrial Code 56 (ICR-56).

C. The Abatement Contractor shall satisfy the requirements for asbestos projects issued by the New York State Department of Labor concerning licensing and certification; notification; equipment; removal and disposal procedures; engineering controls; work area preparation; decontamination and clean-up procedures; and personnel air monitoring.

D. The Abatement Contractor shall be responsible for submittal of asbestos project notification(s) and applicable fees to EPA and NYSDOL concerning this project. Project notification(s) shall be made for the cumulative total of ACM to be removed as required by ICR-56-3.4. Work practices for each individual work area established shall be consistent with the quantity of ACM contained within that work area as defined in ICR-56-2.

E. The scope of work under this contract shall include the following:

1. All Asbestos-containing Materials (ACM), detailed within Section #3.17 – Location of Work, shall be removed in accordance with these specifications. The Abatement Contractor is responsible for field verification of estimated quantities, locations and other site conditions that may affect work and must provide fully execute Page #56 – Estimate of ACM Quantities Form and return with their bid.

2. All fixed objects remaining within the work area(s) shall be protected as required by Title 12 NYCRR Section 56-7.10(b) and as described in these specifications.

3. The containerization, labeling and disposal of all asbestos waste in accordance with applicable city, state and federal regulations and these specifications.

4. The Abatement Contractor will be responsible for repairing all building components damaged during abatement including, but not limited to, ceiling tiles, ceiling finishes, wall finishes and/or floor finishes, etc.

5. The Abatement Contractor shall be responsible for any and all demolition required to access materials identified in scope of work and on associated drawings.

6. Concealed conditions that are exposed and may require additional work shall be brought to the attention of the Owner(s) immediately. The Abatement Contractor shall not abate these areas without a written notice to proceed. If the Abatement Contractor removes additional asbestos prior to the order to proceed the additional work will not be acknowledged.

7. Permissible working hours shall be Monday through Friday 7:00 A.M. to 4:00 P.M. and/or as defined by the Owner. Holidays shall be considered weekends and not included for working days. Upon written approval from the Owner, the Abatement Contractor may work past these hours. The Abatement Contractor will incur any and all costs associated for work performed beyond the defined schedule including, but not limited to: abatement activities, project/air monitoring, custodial/staffing labor, overtime, mobilizations, etc.

8. Buildings will be turned over to the Abatement Contractor as is. At that time, all electrical services and HVAC systems in the proposed work areas will be shut down. Electricity and water supply will be maintained in the building for use by the Abatement Contractor. The Abatement Contractor is responsible for securing all power in the work area(s) and establishing all temporary GFCI hookups necessary to complete his work.

9. As required, the Abatement Contractor shall remove identified asbestos-containing floor coverings to building substrates beneath; in areas indicted within Section #3.17 – Location of Work and associated Asbestos Abatement Location Drawings. Subsequent to final air clearances, the substrate(s) shall be washed with a neutralizing agent to prepare the substrate to accept new floor covering(s) and eliminate residual odors.

10. The Abatement Contractor must coordinate location of waste containers with the Facility and the Owner. Deliveries and storage of equipment must be coordinated with the Facility and the Owner.

11. All “Large” and “Small” asbestos abatement projects, as defined by 12 NYCRR56 shall not be performed while the building is occupied. The term “building” means a wing or major section of a building that can be completely isolated from the rest of the building with sealed non-combustible construction. The isolated portion of the building must contain exists that do not pass through the occupied portion(s) and ventilation systems must be physically separated and sealed at the isolation barriers.

1.02 PRE-CONTRACT SUBMITTALS

Within three (3) days after bids are opened, the three (3) apparent low bidders shall be required to submit the following documentation:

A. Resume': Shall include the following:

1. Provide a list of projects of similar nature performed within the past two (2) years and include the dollar value of all projects. Provide project references to include owner, consultant, and air monitoring firms' name, contact person, address, and phone number, include location of project and date of completion.

2. Abatement Contractor license issued by New York State Department of Labor for asbestos work in accordance with ICR-56-3.

3. A list of owned equipment available to be used in the performance of the project.

4. The number of years engaged in asbestos removal.

5. An outline of the worker training courses and medical surveillance program conducted by the Abatement Contractor.

6. A standard operating procedures manual describing work practices and procedures, equipment, type of decontamination facilities, respirator program, special removal techniques, etc.

7. Documentation to the satisfaction of the Owner pertaining to the Abatement Contractor's financial resources available to perform the project. Such data shall include, but not be limited to, the firm's balance sheet for the last fiscal year.

B. Citations/Violations/Legal Proceedings

1. Submit a notarized statement describing any citations, violations, criminal charges, or legal proceedings undertaken or issued by any law enforcement, regulatory agency, or consultant concerning performance on previous asbestos abatement contracts. Briefly describe the circumstances citing the project and involved persons and agencies as well as the outcome of any actions.

2. Answer the question: "Has your firm or its agents been issued a Stop Work order on any project within the last two years?" If "Yes" provide details as discussed above.

3. Answer the question: "Are you now, or have you been in the past, a party to any litigation or arbitrations arising out of your performance on Asbestos Abatement Contracts?" If "Yes" provide details as discussed in 1. above.

4. Describe any liquidated damages assessed within the last two years.

C. Preliminary Schedule

1. Provide a detailed schedule including work dates, work shift times, estimate of manpower to be utilized and the start and completion date for completion of each major work area.

1.03 DOCUMENTATION

A. The Abatement Contractor shall be required to submit the following and receive the Consultant's approval prior to commencing work on this project:

1. Provide documentation of worker training for each person assigned to the project. Documentation shall include copies of each workers valid New York State asbestos handler certificates (for those employees who may perform asbestos removal), documentation of current respirator fit test and current OSHA required training and medical examination.

2. The attached "Asbestos Employee Medical Examination Statement" and "Asbestos Employee Training Statement" forms shall be completed, signed and submitted for each worker assigned to the project. Records of all employee training and medical surveillance shall be maintained for at least forty (40) years. Copies of the records shall be submitted to the Consultant prior to commencement.

3. The Abatement Contractor shall submit proof of a current, valid license issued by the New York State Department of Labor pursuant to the authority vested in the Commissioner by section 906 of the Labor Laws, and that the employees performing asbestos related work on this project are certified by the State of New York as required in Part 56 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York latest edition. Copies of all licenses shall be submitted prior to the commencement of the project.

4. The Abatement Contractor shall submit a written respiratory protection program meeting the requirements of 29 CFR 1910.134 to the Consultant.

5. The name, address, social security number and NYS DOL certificate number of the person(s) who will supervise the asbestos project.

6. The name and address of the deposit or waste disposal site or sites where the asbestos materials are to be deposited or disposed of. This site must be approved by the Owner. The manifesting procedure must also be specified.

7. The name, address and New York State Dept. of Environmental Conservation ID Number of any transporters that are to be used to transport waste.

8. A written Standard Operation Procedure (SOP) that is designed and implemented to maximize protection against human exposure to asbestos dust. The SOP shall take into consideration the workers, visitors, building employees, general public and environment. As a minimum the procedures must include the following:

   a. Security for all work areas on an around-the-clock basis against unauthorized access.

   b. Project organization chart including the phone numbers of at least two responsible persons who shall be authorized to dispatch men and equipment to the project in the event of an emergency; including weekends.

c. Description of protective clothing and NIOSH approved respirators to be used.

d. Description of all removal methods to be used, including HEPA air filtration and decontamination sequence with special emphasis on any procedure that may deviate from these specifications.

e. A list of manufacturers' certificates stating that all vacuums, negative air filtration equipment, respirators and air supply equipment meet OSHA and EPA requirements.

f. A list of all materials proposed to be furnished and used under this contract.

g. Emergency evacuation procedures in the event of fire, smoke or accidents such as injury from falling, heat exposure, electrical shock, etc.

h. The name, address and ELAP number of the New York State Department of Health Certified Analytical Testing Laboratory the Contractor proposes to use for the OSHA monitoring.

9. A detailed plan, in triplicate, for the phasing of the project, division of work areas and location of decontamination facilities, waste containers and temporary office.

10. Work schedule, identifying firm dates and completion for actual areas. Bar chart or critical path chart indicating phases is required.

B. The Abatement Contractor shall post their NYS DOL contractor's license and maintain a daily log documenting the dates and time of the following items within each personal decontamination unit:

1. Meetings; purpose, attendants, discussion (brief)

2. Sign-in and sign-out of all persons entering the work area including name, date, time, social security number, position or function and general description of daily activity.

3. Testing of barriers and enclosure systems using smoke tubes prior to the beginning of abatement activities and at least once a day thereafter until satisfactory clearance air monitoring results have been achieved.

4. Inspection of all plastic barriers, twice daily, by the asbestos supervisor.

5. Loss of enclosure integrity; special or unusual events, barrier breaches, equipment failures, etc.

6. Daily cleaning of enclosures.

7. Personnel air monitoring test results for OSHA Compliance. Results shall be posted at the work site within 24 hours of testing and copies supplied to the Owner within five (5) days of testing. Abnormalities shall be supplied to the Owner immediately.

C. Documentation with confirmation signature of Consultant's representative of the following shall be provided by the Abatement Contractor at the final closeout of the project.

1. Testing of barriers and enclosure systems using smoke tubes shall be performed prior to the beginning of abatement activities and at least once a day thereafter until satisfactory clearance air monitoring results have been achieved.

2. Inspection of all plastic barriers.

3. Removal of all polyethylene barriers.

4. Consultant's inspections prior to encapsulation.

5. Removal of waste materials.

6. Decontamination of equipment (list items).

7. Consultant's final inspection/final air tests.

D. The Abatement Contractor shall provide records of all project information, to include the following which shall be submitted upon completion of the project and prior to approval of the Abatement Contractor's payment application:

1. The location and description of the abatement project.

2. The name, address and social security number of the person(s) who supervised the asbestos project.

3. Certified payroll documentation Pursuant to Article 8, Section 220 of the NYS Labor Law

4. Copies of EPA/NYSDOL Asbestos Certificates for all Workers and Supervisors employed on the Project.

5. Copies of Medical Approval and Respirator Fit-testing for all Asbestos Workers and Supervisors employed on the Project.

6. Copies of Abatement Contractors Daily Sign-In Sheets & Logs for persons entering and leaving the work area. – Title 12 NYCRR Part 56-7.3.

7. Copies of Abatement Contractor’s personal air sampling laboratory results.

8. The amounts and type of asbestos materials that was removed, enclosed, encapsulated, or disturbed.

9. The name and address of the deposit or waste disposal site or sites where the asbestos waste materials were deposited or disposed of and all related manifests, receipts and other documentation associated with the disposal of asbestos waste.

10. The name and address of any transporters used to transport waste and all related manifests, receipts and other documentation associated with the transport of asbestos waste.

11. All other information that may be required by state, federal or local regulations.

12. Copy of the Supervisor's Daily Project Log of events as described in 1.03 B, above.

1.04 NOTIFICATIONS AND PERMITS

A. The Abatement Contractor shall be required to prepare and submit notifications to the following agencies at least ten (10) days prior to the commencement of the project:

1. Asbestos NESHAPS Contact
   U.S. Environmental Protection Agency
   NESHAPS Coordinator, Air Facilities Branch
   26 Federal Plaza
   New York, New York 10007
   (212) 264-7307

2. State of New York Department of Labor
   Division of Safety and Health
   Asbestos Control Bureau
   State Office Building Campus, Building 12, Room 454
   Albany, New York 12240

3. Owner(s): South Orangetown CSD
   160 Van Wyck Road
   Blauvelt, NY 10913
   ATTN: Jack Rallo
   Ph. (845) 680-1016
   E-mail. jrallo@socsd.org

4. Owner's Representative(s): Clark Patterson Lee
   50 Front Street
   Suite 202
   Newburgh, NY 12550
   ATTN: Lauren Tarsio
   Ph. (845) 567-6700
   E-mail. ltarsio@cplteam.com

5. Environmental Consultant(s): Quality Environmental Solutions & Technologies, Inc. (QuES&T)
   1376 Route 9
   Wappingers Falls, New York 12590
   ATTN: Todd McAfee
   Ph. (845) 298-6031
   Fx. (845) 298-6251
   E-mail. tmcafee@qualityenv.com

B. The notification shall include but not be limited to the following information:

1. Name and address of Owner.

2. Name, address and asbestos handling license number of the Abatement Contractor.

3. Address and description of the building, including size, age, and prior use of the building or area; the amount, in square feet or linear feet of asbestos material to be removed; room designation numbers or other local information where asbestos material is found, including the type of asbestos material (friable or non-friable).

4. Scheduled starting and completion dates for removal.

5. Methods to be employed in abating asbestos containing materials.

6. Procedures and equipment, including ventilating/exhaust systems, that will be employed to comply with the Code of Federal Regulation (CFR) Title 40, Part 61 of the U.S. Environmental Protection Agency.

7. The name and address of the carting company and of the waste disposal site where the asbestos waste will be deposited.

NOTE: Notifications shall be submitted using standard forms as may be used by the respective agency.

For DOL (NYS) include "Asbestos Project Notification" form (DOSH-483) with proper fee, if required. For EPA include "Notification of Demolition and Renovation"; 40 CFR Part 61.

C. The Abatement Contractor shall secure any permits required by the city, town, county, or state that may be required and the cost for obtaining the permit shall be included in his base bid.

D. The Abatement Contractor shall erect warning signs around the work space at every point of potential entry into the work area in accordance with OSHA 1926.58k (2), (i). These signs shall bear the following information:

DANGER

CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING
ARE REQUIRED IN THIS AREA

E. The Abatement Contractor shall post at entrances to the work place and immediate adjacent areas, notifications to building occupants which include the name and license number of the contractor, project location and size, amount and type of ACM, abatement procedures, dates of expected occurrence and name and address of the air monitor and laboratory in compliance with ICR 56-3.6.

F. The Abatement Contractor shall post a list of emergency telephone numbers at the job site which shall include the Owner's Representative, police, emergency squad, local hospital, Environmental Protection Agency, N.Y. State Department of Labor, Occupational Safety and Health Administration and the local Department of Health.

1.05 APPLICABLE STANDARDS

Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, applicable standards of the construction industry have the same force and effects (and are made a part of contract documents by reference) as if copied directly into contract documents, or as if published copies were bound herewith. Resolution of overlapping and conflicting requirements, which result from the application of several different industry standards to the same unit of work, shall be by adherence to the most stringent requirement.

A. Applicable standards listed in these Specifications form a part of this Specification and include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

1. ANSI:
   American National Standards Institute
   1430 Broadway
   New York, New York 10018

2. ASHRAE:
   American Society for Heating, Refrigerating
   and Air Conditioning Engineers
   1791 Tullie Circle NE
   Atlanta, Georgia 30329

3. ASTM:
   American Society for Testing and Materials
   1916 Race Street
   Philadelphia, Pennsylvania 19103

4. CFR
   Code of Federal Regulations Available
   from Government Printing Office
   Washington, District of Columbia 20402

5. CGA
   Compressed Gas Association
   1235 Jefferson Davis Highway
   Arlington, Virginia 22202

6. CS
   Commercial Standard of NBS
   (US Dept. of Commerce)
   Government Printing Office

7. EPA

   Environmental Protection Agency, Region II
   26 Federal Plaza
   New York, New York 10007
   Asbestos Coordinator - Room 802
   (212) 264-9538
   Part 61, Sub-Parts A & B
   National Emission Standard for Asbestos

8. FEDERAL SPECS

   Federal Specification (General Services Administration)
   7th and D Street, SW
   Washington, District of Columbia 20406

9. NBS

   National Bureau of Standards
   (US Department of Commerce)
   Gaithersburg, Maryland 20234

10. NEC

    National Electrical Code (by NFPA)

11. NFPA

    National Fire Protection Association
    Batterymarch Park
    Quincy, Massachusetts 02269

12. NIOSH

    National Institute for Occupational Safety and Health
    26 Federal Plaza
    New York, New York 10007

13. NYSDOH

    New York State Department of Health
    Bureau of Toxic Substance Assessment
    Room 359 - 3rd Floor
    Tower Building Empire State Plaza
    Albany, New York 12237

14. NYSDEC

    New York State Department of Environmental Conservation
    Room 136
    50 Wolf Road
    Albany, New York 12233-3245

15. NYSDOL
    State of New York Department of Labor
    Division of Safety and Health
    Asbestos Control Program
    State Campus
    Building 12
    Albany, New York 12240

16. OSHA
    Occupational Safety and Health Administration
    (US Department of Labor)
    New York Regional Office - room 3445
    1515 Broadway
    New York, New York 10036

17. UL
    Underwriters Laboratories
    333 Pfingsten Road
    Northbrook, Illinois 60062

B. Federal Regulations: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials:

1. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA):

   a. Asbestos Regulations
      Title 29, Part 1910, of the Code of Federal Regulations.

   b. Respiratory Protection
      Title 29, Part 1910, Section 134 of the Code of Federal Regulations.

   c. Construction Industry
      Title 29, Part 1926, of the Code of Federal Regulations.

   d. Access to Employee Exposure & Medical Records
      Title 29, Part 1910, Section 20 of the Code of Federal Regulations.

   e. Hazard Communication
      Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.

   f. Specifications for Accident Prevention Signs and Tags
      Title 29, Part 1910, section 145 of the Code of Federal Regulations.

2. U.S. Environmental Protection Agency (EPA):

   a. Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Subpart E of the Code of Federal Regulations.

b. Worker Protection Rule
40 CFR Part 763, Subpart G, CPTS 62044, FLR 2843-9
Federal Register, Vol. 50, No. 134, 7/12/85, P28530-28540

c. Regulation for Asbestos
Title 40, Part 61, Subpart A of the Code of Federal Regulations

d. National Emission Standard for Asbestos
Title 40, Part 61, Subpart M (Revised Subpart B) of the Code of Federal Regulations

e. Resource Conservation and Recovery Act (RCRA) 1976, 1980
Hazardous and Solid Waste Amendments (HSWA) 1984
Subtitle D, Subtitle C

3. U.S. Department of Transportation (DOT):

a. Hazardous Substances: Final Rule Regulation 49 CFR, Part 171 and 172.

C. State Regulations: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials:

1. New York State Department of Environmental Conservation (DEC) Regulations regarding waste collection registration. Title 6, Part 364 of the New York State Official Compilation of Codes, Rules and Regulations - 6NYCRR 364.

2. New York State Right-To-Know Law

3. New York State Department of Labor Asbestos Regulations Industrial Code Rule 56.

D. Standards: Those which govern asbestos abatement work or hauling and disposal of asbestos waste materials:

1. American National Standards Institute (ANSI)

a. Fundamentals Governing the Design and Operation of Local Exhaust Systems
Publication Z9.2-79

b. Practices for Respiratory Protection
Publication Z88.2-80

E. Guidance Documents: Those that discuss asbestos abatement work or hauling and disposal of asbestos waste materials are listed below only for the Abatement Contractor's information. These documents do not describe the work and are not a part of the work of this contract.

EPA:

1. Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book) EPA560/5-85-024.

2. Asbestos Waste Management Guidance EPA 530-SW-85-007.

F. Patents and Royalties: The Abatement Contractor shall pay all royalties and/or license fees. The Abatement Contractor shall defend all suits and claims for infringement of any patent rights and save the Owner and Consultant harmless from loss including attorney fees on account thereof.

1.06 DEFINITIONS

As used in or in connection with these specifications the following are terms and definitions.

Abatement - Procedure to control release from asbestos material. This includes removal, encapsulation and enclosure.

Aggressive sampling - A method of sampling in which the person collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.

AIHA - The American Industrial Hygiene Association, 475 Wolf Ledges Parkway, Akron, Ohio 44311.

Airlock - A system for permitting entrance and exit while restricting air movement between a containment area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least three feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.

Air sampling - The process of measuring the content of a known volume of air collected during a specific period of time.

Amended water - Water to which a surfactant has been added.

Approved asbestos safety program - A program approved by the Commissioner of Health providing training in the various disciplines that may be involved in an asbestos project.

Area air sampling - Any form of air sampling or monitoring where the sampling device is placed at some stationary location.

Asbestos - Any naturally occurring hydrated mineral silicate separable into commercially usable fibers, including chrysotile (serpentine), amosite (cumingtonite-gunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite.

Asbestos contract - An oral or written agreement contained in one or more documents for the performance of work on an asbestos project and includes all labor, goods and service.

Asbestos handler - An individual who installs, removes, applies, encapsulates, or encloses asbestos or asbestos material, or who disturbs friable asbestos. Only individuals certified by NYS Department of Labor shall be acceptable for work under this specification.

Asbestos handling certificate - A certificate issued by the Commissioner of Labor of the State of New York, to a person who has satisfactorily completed an approved asbestos safety program.

Asbestos project - Work undertaken by a contractor which involves the installation, removal, encapsulation, application or enclosure of any ACM or the disturbance of friable ACM.

Asbestos Safety Technician (AST) - Individual designated to represent the Consultant, perform third party monitoring and perform compliance monitoring at the job site during the asbestos project.

Asbestos waste material - Asbestos material or asbestos contaminated objects requiring disposal.

Authorized visitor - The building owner, his or her representative or any representative of a regulatory or other agency having jurisdiction over the project.

Background level monitoring - A method used to determine ambient airborne concentrations inside and outside of a building or structure prior to starting an abatement project.

Building owner - The person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance Building Owner means the person in whom beneficial title is vested.

Clean room - An uncontaminated area or room that is a part of the personal decontamination enclosure with provisions for storage of persons' street clothes and protective equipment.

Cleanup - The utilization of HEPA vacuuming to control and eliminate accumulations of asbestos material and asbestos waste material.

Clearance air monitoring - The employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers upon conclusion of an asbestos abatement project.

Commissioner - Commissioner of the New York State Department of Labor.

Contractor - A company, unincorporated association, firm, partnership or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in an asbestos project.

Curtained doorway - A device that consists of at least three overlapping sheets of plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and the left side. All sheets shall have weights attached to the bottom to insure that the sheets hang straight and maintain a seal over the doorway when not in use.

Decontamination enclosure system - A series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of persons, materials, equipment, and authorized visitors.

Encapsulant (sealant) or encapsulating agent - A liquid material that can be applied to asbestos material and which prevents the release of asbestos from the material by creating a membrane over the surface.

Enclosure - The construction of airtight walls, ceilings and floors between the asbestos material and the facility environment, or around surfaces coated with asbestos materials, or any other appropriate procedure that prevents the release of asbestos materials.

Equipment room - A contaminated area or room that is part of the personal decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.

Fixed object - A unit of equipment, furniture or other fixture in the work area which cannot be readily removed from the work area.

Friable Asbestos Material - That condition of crumbled, pulverized, powdered, crushed or exposed asbestos capable of being released into the air by hand pressure.

Friable material containment - The encapsulation or enclosure of any friable asbestos material.

Glovebag technique - A method for removing asbestos material from heating, ventilating, and air conditioning (HVAC) ducts, piping runs, valves, joints, elbows, and other nonplanar surfaces in a noncontained work area. The glovebag assembly is a manufactured device consisting of a glovebag constructed of at least six mil transparent plastic, two inward-projecting longsleeve gloves, which may contain an inward projecting waterwand sleeve, an internal tool pouch, and an attached, labeled receptacle or portion for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and to contain all asbestos fibers released during the abatement process.

HEPA filter - A high efficiency particulate air filter capable of trapping and retaining 99.97 percent of particulate greater than 0.3 microns equivalent aerodynamic diameter.

HEPA vacuum equipment - Vacuuming equipment with a high efficiency particulate air filtration system.

Holding area - A chamber in the waste decontamination enclosure located between the washroom and an adjacent uncontaminated area.

Homogeneous work area - A site within the abatement work area that contains one type of asbestos material and where one type of abatement is used.

Large asbestos project - An asbestos project involving the installation, removal, disturbance, enclosure, or encapsulation of 160 square feet or more of asbestos or asbestos material or 260 linear feet or more of asbestos or asbestos material.

Minor asbestos project - An asbestos project involving the installation, removal, disturbance, enclosure, or encapsulation of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material.

Movable object - A unit of equipment, furniture or fixture in the work area that can be readily removed from the work area.

Negative air pressure equipment - A local exhaust system equipped with HEPA filtration. The system shall be capable of creating and maintaining a negative pressure differential between the outside and the inside of the work area.

Non-asbestos material - Any material containing one percent or less asbestos by weight.

Occupied area - Any frequented portion of the work site where abatement is not taking place.

Outside air - The air outside the building or structure.

Personal air monitoring - A method used to determine an individuals exposure to airborne contaminants. The sample is collected outside the respirator in the person's breathing zone.

Plasticize - To cover floors, walls, ceilings and other surfaces with 6 mil fire retardant plastic sheeting as herein specified.

Project - Any form of work performed in connection with the abatement of asbestos or alteration, renovation, modification or demolition of a building or structure that may disturb asbestos or asbestos material.

Removal - The stripping of any asbestos material.

Repair - Corrective action using required work practices to control fiber release from damaged areas.

Respiratory protection - Respiratory protection required of licensed asbestos workers and authorized visitors in accordance with the applicable laws.

Satisfactory clearance air monitoring results - For all post- abatement samples, airborne concentrations of total fibers that are less than 0.01 fibers per cubic centimeter or background levels, whichever are greater, using phase contrast microscopy (PCM).

Shower room - A room between the clean room and the equipment room in the personal decontamination enclosure with hot and cold running water controllable at the top and arranged for complete showering during decontamination.

Small asbestos project - An asbestos project involving the installation, removal, disturbances, enclosure, or encapsulation of more than 10 and less than 160 square feet of asbestos or asbestos material of more than 25 and less than 260 linear feet of asbestos or asbestos material.

Staging area - The area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.

Surfactant - A chemical wetting agent added to water to improve its penetration.

Visible emissions - An emissions of particulate material that can be seen without the aid of instruments.

Washroom - A room between the work area and the holding area in the waste decontamination enclosure system, where equipment and waste containers are wet cleaned and/or HEPA vacuumed.

Waste decontamination enclosure system - An area, consisting of a washroom and a holding area, designated for the controlled transfer of materials and equipment.

Wet cleaning - The process of eliminating asbestos contamination from surfaces, equipment or other objects by using cloths, mops, or other cleaning tools.

Work area - Designated rooms, spaces, or areas where asbestos abatement takes place.

Work site - Premises where asbestos abatement is taking place.

Work Surface - Substrate surface from which asbestos-containing material has been removed.

1.07 UTILITIES, SERVICE AND TEMPORARY FACILITIES

A. The Owner shall make available to the Abatement Contractor all reasonable amounts of water and electrical power at no charge.

B. The Abatement Contractor shall provide, at his own expense, all electrical, water, and waste connections, extensions, and construction materials, supplies, etc. All connections must be approved in advance by the Owner and all work relative to the utilities must be in accordance with the applicable building codes.

C. The Abatement Contractor shall provide scaffolding, ladders and staging, etc. as necessary to accomplish the work of this contract. The type, erection and use of all scaffolding, ladders and staging, etc. shall comply with all applicable OSHA provisions.

D. All connections to the Owner's water system shall include reduced pressure backflow protection or double check and double gate valves. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.

E. The Abatement Contractor shall use only heavy duty abrasion resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water to each work area and to each decontamination unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment. All water must be shut off at the end of each shift.

F. The Abatement Contractor shall provide service to decontamination unit electrical subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect and ground-fault circuit interrupters (GFCI), reset button and pilot light, connected to the building's main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work. This electrical subpanel shall be used for hot water heater, PAPR battery recharging and air sampling pumps.

G. The Abatement Contractor shall provide UL rated 40-gallon electric hot water heater to supply hot water for the decontamination unit shower. Activate from 30 amp circuit breaker on the electrical subpanel located within the decontamination unit. Provide with relief valve compatible with water heater operation; relief valve down to drip pan on floor with type L copper. Wiring of the hot water heater shall be in compliance with NEMA, NEC, and UL standards.

H. The Abatement Contractor shall provide identification warning signs at power outlets, which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 plugs into higher voltage outlets. Dry transformers shall be provided where required to provide voltages necessary for work operations. All outlets or power supplies shall be protected by ground fault circuit interrupter (GFCI) at the power source.

I. The Abatement Contractor shall use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.

J. The Abatement Contractor shall provide general service incandescent lamps of wattage indicated or required for adequate illumination; Protect lamps with guard cages or tempered glass enclosures; Provide exterior fixtures where fixtures are exposed to moisture.

K. The Abatement Contractor shall provide temporary heat or air conditioning as necessary to maintain comfortable working temperatures inside and immediately outside the work areas. Heating and A/C equipment shall have been tested and labeled by UL, FM or another recognized trade association related to the fuel being used. Fuel burning heaters shall not be used inside containment areas. The Contractor shall also provide a comfortable working environment for occupied areas that are impacted by the asbestos removal.

L. The Abatement Contractor shall comply with recommendations of the NFPA standard in regard to the use and application of fire extinguishers. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each work area, equipment room, clean room and outside the work area.

1.08 REMOVAL OF FIXTURES

A. In locations where the Abatement Contractor is directed to dispose of fixtures he shall either decontaminate the fixtures and dispose of them as non-asbestos containing materials or he shall place them in an appropriate container and dispose of them as asbestos containing material.

B. In locations where the Abatement Contractor is directed to remove and reinstall fixtures, the fixtures shall be removed, decontaminated, labeled, protected with plastic and stored by the contractor in a location as directed by the Owner.

C. Upon completion of the asbestos removal and upon receiving satisfactory clearance air monitoring results, all items to be replaced shall be restored to their original location and reinstalled by the Abatement Contractor.

PART 2 – PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. GENERAL REQUIREMENTS

1. Materials shall be stored off the ground, away from wet or damp surfaces and under protective cover to prevent damage or contamination.

2. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

3. Power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

4. The Abatement Contractor shall make available to authorized visitors, ladders and/or scaffolds of sufficient dimension and quantity so that all work surfaces can be easily and safely reached for inspection. Scaffold joints and ends shall be sealed with tape to prevent incursion of asbestos. Scaffolds and ladders shall comply with all applicable codes.

B. PLASTIC BARRIERS (POLYETHYLENE)

1. In sizes and shapes to minimize the number of joints.

   a. Six mil. (.006") fire-retardant for vertical protection (walls, entrances and openings).

   b. Six mil. (.006") fire-retardant for horizontal protection (fixed equipment) and heating grilles.

   c. Six mil. (.006") reinforced fire-retardant for floors of decon units.

2. Provide two (2) layers over all roof, wall and ceiling openings. Floor penetrations shall be sealed with a rigid material prior to plasticizing to prevent tripping and fall hazards. All seams within a layer shall be separated by a minimum distance of six feet and sealed airtight. All seams between layers shall be staggered.

3. Barrier Attachment - Commercially available duct tape (fabric or paper) and spray-on adhesive. Duct tape shall be capable of sealing joints of adjacent sheets of plastic, facilitating attachment of plastic sheets to finished or unfinished surfaces of dissimilar materials and adhering under both dry and wet conditions.

C. SIGNS

1. Danger signs shall be provided and shall conform to 29 CFR 1926.1101 and be 14" x 20". These signs shall bear the following information:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE
CLOTHING
ARE REQUIRED IN THIS AREA

D. DANGER LABELS AND TAPE

1. Labels shall be affixed to any asbestos contaminated material in accordance with the requirements of 29 CFR 1910.1200 (f) of OSHA's Hazard Communication Standard, and shall contain the following information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID BREATHING DUST
CANCER AND LUNG DISEASE HAZARD

2. A label shall be affixed on each container of asbestos waste in accordance with the requirements of 49 CFR Parts 171 and 172, Hazardous Substances; Final Rule (U.S. Department of Transportation), and shall contain the following information:

RQ HAZARDOUS SUBSTANCE
SOLID, NOS, ORM-E, NA 9188
(ASBESTOS)

3. A label shall be affixed on each container of asbestos waste in accordance with the requirements of 40 CFR Part 61.150, NESHAP; Asbestos; Final Rule (USEPA) and shall contain the name of the waste generator and the location at which the waste was generated.

   NOTE: All containers marked as above (1, 2 and 3) shall be disposed of as asbestos waste.

4. Provide 3" red barrier tape printed with black lettered "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos work area.

E. PROTECTIVE EQUIPMENT

1. Respiratory Requirements

   a. Where fiber levels permit, and in compliance with regulatory requirements, Powered Air Purifying Respirators are the minimum allowable respiratory protection permitted to be utilized during removal operations.

   b. Where not in violation of NIOSH, OSHA, and any other regulatory requirements, the Abatement Contractor shall provide the following minimum respiratory protection to the maximum use concentrations indicated:

MSHA/NIOSH Approved Respiratory Protection	Maximum Use Concentration
Half-Mask Air Purifying with HEPA Filters	10x PEL
Full-Facepiece Air Purifying HEPA Filters and Quantitative Fit Test	10x PEL
Powered Air Purifying (PAPR), Loose fitting Helmet or Hood, HEPA Filter	25x PEL
Powered Air Purifying (PAPR), Full Facepiece, HEPA Filter	50x PEL
Supplied Air, Continuous Flow Loose fitting Helmet or Hood	25x PEL
Supplied Air, Continuous Flow Full Facepiece, HEPA Filter	50x PEL
Full Facepiece-Supplied Air Pressure Demand, HEPA Filter	100x PEL
Full Facepiece-Supplied Air Pressure Demand, with Aux. SCBA, Pressure Demand or Continuous Flow	>100x PEL

2. Disposable Clothing -"Tyvek" manufactured by Dupont or approved equal.

3. NIOSH approved safety goggles to protect eyes.

4. Polyethylene bags, 6 mil. (.006") thick (use double bags).

NOTE: Workers must wear disposable coveralls and respirator masks at all times while in the work area. Contaminated coveralls or equipment must be left in work area and not worn into other parts of the building.

F. TOOLS AND EQUIPMENT

1. Airless Sprayer - An airless sprayer, suitable for application of encapsulating material, shall be used.

2. Scaffolding - Scaffolding, as required to accomplish the specified work, shall meet all applicable safety regulations.

3. Transportation Equipment - Transportation equipment, as required, shall be suitable for loading, temporary storage, transport and unloading of contaminated waste without exposure to persons or property. Water tight, hard wall containers shall be provided to retain and dispose of any asbestos waste material with sharp-edged components that may tear plastic bags or sheeting. The containers shall be marked with danger labels.

4. Surfactant - Wetting Agents - "Asbestos-Wet" - Aquatrols Corp. of America or approved equal, and shall be non- carcinogenic.

5. Portable (negative air pressure) asbestos filtration system - by Micro-Trap, or approved equal.

6. Vacuum, HEPA type equal to "Nilfisk" #GA73, or "Pullman/Holt" #75 ASA.

7. Amended Water Sprayer - The water sprayer shall be an airless or other low-pressure sprayer for amended water application.

8. Other Tools and Equipment - The Abatement Contractor shall provide other suitable tools for the stripping, removal, encapsulation, and disposal activities including but not limited to: hand-held scrapers, nylon brushes, sponges, rounded edge shovels, brooms, and carts.

PART 3 - EXECUTION

3.01 PRE-ABATEMENT WORK AREA PREPARATION

A. The work area shall be vacated by the occupants prior to work area preparation and not reoccupied until satisfactory clearance air monitoring results have been achieved.

B. Caution signs shall be posted at all locations and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted that permit a person to read the sign and take the necessary protective measures to avoid exposure.

C. Shut down and lock out electric power to all work areas. The Abatement Contractor shall provide temporary power and lighting and ensure safe installation of temporary power sources and equipment used where high humidity and/or water shall be sprayed in accordance with all applicable codes. All power to work areas shall be brought in from outside the area through a ground-fault interrupter at the source.

D. Isolate the work area HVAC system.

E. The personnel decontamination enclosure system shall be installed or constructed prior to preparatory work in the work area and in particular before the disturbance of asbestos material. The waste decontamination enclosure system shall be installed or constructed prior to commencement of abatement activities.

F. Movable objects within the work area shall be pre-cleaned using HEPA filtered vacuum equipment an/or wet cleaning and such objects shall be removed from the work area to an uncontaminated location. If disposed of as asbestos waste material, cleaning is not required.

G. Fixed objects and other items, which are to remain within the work area, shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning. Such objects shall be enclosed with two layers of at least six mil plastic sheeting and sealed with tape.

H. The work area shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall be prohibited. Asbestos material shall not be disturbed during pre-cleaning.

I. Isolation barriers that seal off all openings, including windows, corridors, doorways, ducts, and any other penetrations of the work area, shall be constructed using two layers of at least six mil fire-retardant plastic sheeting sealed with tape. Also, all seams in mechanical system components that pass through the work area shall be sealed. Doorways and corridors, which shall not be used for passage during work, shall also be sealed.

J. Removal of mounted objects. After isolation barriers are in place, objects such as light fixtures, electrical track, alarm systems, ventilation equipment and other items not previously sealed, shall be double sealed with six mil fire-retardant plastic sheeting. Localized HEPA filtered vacuum equipment shall be used during fixture removal to reduce asbestos dispersal.

K. Individual roof and floor drains shall be sealed water tight using two layers of 6-mil fire-retardant plastic sheeting and tape prior to plasticizing. Openings in floor shall be fully covered with plywood sheeting secured to the floor in such a way as to minimize a tripping hazard prior to plasticizing.

L. Emergency and fire exits from the work area shall be maintained or alternate exits shall be established according to all applicable codes.

M. Adequate toilet facilities shall be supplied by the Abatement Contractor and shall be located either in the clean area of the personnel decontamination enclosure or shall be readily accessible to the personnel decontamination enclosure.

3.02 LARGE ASBESTOS PROJECT PERSONNEL DECONTAMINATION ENCLOSURE SYSTEM (ICR 56-7.5)

A. The personnel decontamination enclosure shall be constructed prior to preparatory work in the work area and in particular before the disturbance of asbestos material.

1. Construction and use of personnel decontamination enclosure systems shall be in accordance with ICR-56 and any Applicable or Site Specific Variances utilized on this project. Such systems may consist of existing rooms outside of the work area, if the layout is appropriate, that can be enclosed is plastic sheeting and are accessible from the work area. When this situation does not exist, enclosure systems may be constructed out of metal, wood or plastic support.

2. The personnel decontamination enclosure system shall consist of a clean room, a shower room, and an equipment room, in series, separated from each other and from the work area by three airlocks.

3. There shall be one shower per six full shift abatement persons calculated on the basis of the largest shift.

4. The personnel decontamination enclosure system shall be fully framed, sheathed for safety and constructed to prevent unauthorized entry.

5. Personnel decontamination enclosure systems constructed at the work site shall utilize at least six mil fire-retardant opaque plastic sheeting. At least two layers of six mil fire-retardant reinforced plastic sheeting shall be used for the flooring of this area.

6. All prefabricated decontamination units shall be completely decontaminated and sealed prior to separation and removal from the work area. Mobile decontamination units shall remain in place until satisfactory clearance results have been attained.

7. The clean room shall be sized to accommodate all authorized persons. Benches, lockers and hooks shall be provided for street clothes. Shelves for storing respirators shall also be provided. Clean clothing, replacement filters for respirators, towels and other necessary items shall be provided. The clean room shall not be used for the storage of tools, equipment or materials. It shall not be used for office space. A lockable door shall be provided to permit access to the clean room from outside the work area or enclosure. It shall be used to secure the work area and decontamination enclosure during off-shift hours.

8. The shower room shall contain one or more showers. Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. Uncontaminated soap, shampoo and towels shall be available at all times. Shower water shall be drained, collected and filtered through a system with at least 5.0 micron particle size collection capability. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles. Filtered wastewater shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste. The shower room shall be constructed in such way that travel through the decontamination unit shall be through the shower.

9. The equipment room shall be used for the storage of equipment and tools after decontamination using a HEPA filtered vacuum and/or wet cleaning. A one day supply of replacement filters, in sealed containers, for HEPA vacuums and negative pressure ventilation equipment, extra tools, containers of surfactant and other materials and equipment that may be required during the abatement project may also be stored here. A walk-off pan filled with water shall be located in the work area just outside the equipment room for persons to clean foot covering when leaving the work area. A drum lined with a labeled, at least six mil plastic bag is required for collection of clothing and shall be located in this room. Contaminated footwear and work clothes shall be stored in this area.

3.03 WASTE DECONTAMINATION ENCLOSURE SYSTEM (ICR 56-7.5)

A. General Requirements

1. A waste decontamination enclosure system shall consist of the following:

   a. A washroom/cleanup room shall be constructed with an airlock doorway to the work area and another airlock doorway to the holding area.

   b. The holding area shall be constructed with an airlock doorway to the washroom/cleanup room and another lockable door to the outside.

2. Where there is only one egress from the work area, the holding area of the waste decontamination enclosure system may branch off from the equipment decontamination room, which doubles as a waste washroom, of the personnel decontamination enclosure.

3. The waste washroom shall be equipped with a drain installed to collect water and deliver it to the shower drain where it shall be filtered through a system with at least 5.0 micron particle size collection capability. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles. Filtered wastewater shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste.

4. The waste washroom shall be constructed in such a way that travel through the rooms shall be through the waste washroom

3.04 WORK AREA ENTRY AND EXIT PROCEDURES

A. The following procedures shall be followed throughout the asbestos abatement project until satisfactory clearance air monitoring results have been achieved:

1. All persons shall enter and exit the work area through the personnel decontamination enclosure system.

2. All persons who enter the work area or an enclosure shall sign the entry/exit log, located in the clean room, upon every entry and exit.

3. All persons, before entering the work area, or an enclosure shall read and be familiar with all posted regulations, personal protection requirements, including work area entry and exit procedures, and emergency procedures. The entry/exit log headings shall indicate, and the signatures shall be used to acknowledge, that these have been reviewed and understood by all persons prior to entry.

4. All persons shall proceed first to the clean room, remove all street clothing, store these items in clean sealable plastic bags or lockers and don coveralls, head covering, foot covering and gloves. All persons shall also don NIOSH approved respiratory protection. Clean respirators and protective clothing shall be utilized, by each person, for each separate entry into the work area. Respirators shall be inspected prior to each use and tested for proper seal using quantitative or qualitative fit checks.

5. Persons wearing designated personal protective equipment shall proceed from the clean room through the shower room to the equipment room, where necessary tools are collected and any additional clothing shall be donned, before entry into the work area.

6. Before leaving the work area, all persons shall remove gross contamination from the outside of respirators and protective clothing by brushing, wet cleaning, and/or HEPA vacuuming.

7. Persons shall proceed to the equipment room where all coveralls, head covering, foot covering and gloves shall be removed. Disposable clothing shall be deposited into labeled containers for disposal. Reusable contaminated clothing, footwear, head gear and gloves shall be stored in the equipment room when not being used in the work area.

8. Still wearing respirators, persons shall proceed to the shower area, clean the outside of the respirator and the exposed face area under running water prior to removal of the respirator, and then fully and vigorously shower and shampoo to remove residual asbestos contamination. Respirators shall be washed thoroughly with soap and water. Some types of respirators will require slight modification of these procedures. An airline respirator with HEPA filtered disconnect protection shall be disconnected in the equipment room and worn into the shower. A powered air-purifying respirator facepiece shall be disconnected from the filter/power pack assembly prior to entering the shower.

9. After showering and drying, all persons shall proceed to the clean room and don clean personal protective equipment if returning to the work area or street clothing if exiting the enclosure.

3.05 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION & REMOVAL PROCEDURES

A. The following procedures shall be followed throughout the asbestos abatement project until satisfactory clearance air monitoring results have been achieved.

1. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the work area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. These work area persons shall not enter the airlock.

2. These contaminated items shall be removed from the airlock by persons stationed in the washroom during waste removal operations. These washroom persons shall remove gross contamination from the exterior of their respirators and protective clothing by brushing, HEPA vacuuming and/or wet cleaning.

3. Once in the waste decontamination enclosure system, external surfaces of contaminated containers and equipment shall be cleaned a second time by wet cleaning.

4. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting and sealed airtight.

5. The clean recontainerized items shall be moved into the airlock that leads to the holding area. The washroom persons shall not enter this airlock or the work area until waste removal is finished for that period.

6. Containers and equipment shall be moved from the airlock and into the holding area by persons dressed in clean personal protective equipment, who have entered from uncontaminated areas.

7. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

8. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.

9. Where the waste removal enclosure is part of the personnel decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.

10. Containers labeled with Asbestos hazard warnings shall not be used to dispose of non asbestos waste.

3.06 ENGINEERING CONTROLS

A. Ventilation.

1. The Abatement Contractor shall employ HEPA equipped vacuums or negative air pressure equipment for ventilation as required.

2. All negative air pressure equipment ventilation units shall be equipped with HEPA filtration. The Contractor shall provide a manufacturer's test certificate for each unit documenting the capability of trapping and retaining 99.97 percent of asbestos fibers greater than 0.3 microns equivalent aerodynamic diameter.

3. A power supply shall be available to satisfy the requirements of the total of all ventilating units.

4. On electric power failure, abatement shall stop immediately and shall not resume until power is restored and exhaust units are operating fully. On extended power failure, longer than one hour, the decontamination facilities, after the evacuation of all persons from the work area, shall be sealed airtight.

5. If extending the exhaust of the ventilation units 50 feet from the building would result in an exhaust location either in the road, blocking driveway access to the facility or within 50 feet of other buildings, a second unit will be run in series with the primary unit.

3.07 MAINTENANCE OF DECONTAMINATION ENCLOSURE SYSTEMS AND WORK AREA BARRIERS

A. GENERAL REQUIREMENTS

1. The Consultant must review and approve installation before commencement of work. Upon completion of the construction of all plastic barriers and decontamination system enclosures and prior to beginning actual abatement activities.

2. All plastic barriers inside the work area, in the personnel decontamination enclosure system, in the waste decontamination enclosure system and at partitions constructed to isolate the work area from occupied areas, shall be inspected by the asbestos supervisor at least twice daily. The barriers shall be inspected before the start of and following the completion of the day's abatement activities. Inspections and observations shall be documented in the project log.

3. Damage and defects in the barriers and/or enclosure systems shall be repaired immediately upon discovery and prior to resumption of abatement activities.

4. At any time during the abatement activities, if visible emissions are observed outside of the work area of if damage occurs to the barriers, work shall be stopped, repairs made and visible residue immediately cleaned up using HEPA vacuuming methods prior to the resumption of abatement activities.

5. The Abatement Contractor shall HEPA vacuum and/or wet clean the waste decontamination enclosure system and the personnel decontamination enclosure system at the end of each day of abatement activities.

3.08 HANDLING AND REMOVAL PROCEDURES

The Abatement Contractor may utilize existing provisions of ICR-56, Applicable Variances or a Site Specific Variance, approved by the Owner's Consultant, to permit the conduct of this work.

3.09 ABATEMENT PROCEDURES

A. AIR SAMPLING - By Owner

1. Air sampling and analysis shall be conducted according to the requirements of Subpart 56-4 before the start, during and after the completion of the asbestos removal project.

2. In addition to the requirements of Subpart 56-4, air monitoring shall be conducted in accordance with any approved job specific variance(s) or applicable variance utilized.

3. Clearance samples may be analyzed using PCM to maintain compliance with ICR-56.

4. If applicable, clearance samples will be analyzed using TEM to maintain compliance with ICR-56 and 40 CFR 763.90[i].

B. The provisions of the Applicable Variances or a Job Specific Variance shall apply only in those areas where approval has been granted by the NYS DOL and the Contractor has obtained concurrence from the Owner's Consultant. All other applicable provisions of Industrial Code Rule 56-1 through 56-12 shall be complied.

C. A copy of the NYS DOL Job Specific or Applicable Variance, if applicable, shall be conspicuously posted at the work area(s).

D. The Abatement Contractor shall construct a decontamination unit at the work site. The Abatement Contractor shall, as a minimum, comply with the requirements of 29 CFR 1926.1101(j); Hygiene facilities and practices for employees.

3.10 ENCAPSULATION PROCEDURES

The following procedures shall be followed to seal in non-visible residue, after obtaining satisfactory clearance air monitoring results, while conducting lockdown encapsulation on any surfaces which were the subject of removal or other remediation activities:

A. Only encapsulants rated as acceptable or marginally acceptable on the basis of Battelle Columbus Laboratory test procedures and rating requirements developed under the 1978 USEPA contract shall be used for lockdown encapsulation.

B. Sealants considered for use in encapsulation shall first be tested to ensure that the sealant is adequate for its intended use. A section of the work surface shall be evaluated following this initial test application of the sealant to quantitatively determine the sealant's effectiveness in terms of penetrating and locking down the asbestos fibers. The American Society of Testing and Materials (ASTM) Committee E06.21.06E on Encapsulation of Building Materials has developed a guidance document to assist in the selection of an encapsulant.

C. The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon.

D. Encapsulants shall be applied using airless spray equipment.

1. Spraying is to occur at the lowest pressure range possible to minimize fiber release from encapsulant impact at the surface. It shall be applied with a consistent horizontal or vertical motion.

E. Encapsulation shall be utilized as a surface sealant once all asbestos containing materials have been removed in a work area. In no event shall encapsulant be applied to any surface that was the subject of removal or other remediation activities prior to obtaining satisfactory clearance air monitoring.

3.11 CLEANUP PROCEDURES

A. The following cleanup procedures shall be required.

1. Cleanup of accumulations of loose asbestos material shall be performed whenever enough loose asbestos materials have been removed to fill a single leak tight container of the type commensurate with the material properties. In no case shall cleanup be performed less than once prior to the close of each working day. Asbestos material shall be kept wet until cleaned up.

2. Accumulations of dust shall be cleaned off all surfaces on a daily basis using HEPA vacuum cleaning methods.

3. Decontamination enclosures shall be HEPA vacuumed at the end of each shift.

4. Accumulations of asbestos waste material shall be containerized utilizing HEPA vacuums or rubber or plastic dust pans, squeegees or shovels. Metal shovels shall not be used to pick up or move waste.

5. Excessive water accumulation or flooding in the area shall require work to stop until the water is collected and disposed of properly.

B. The following cleanup procedures shall be required after completion of all removal activities.

1. All accumulations of asbestos waste material shall be containerized utilizing HEPA vacuums or rubber or plastic dust pan, squeegees or shovels. Metal shovels shall not be used to pick up or move waste. HEPA vacuums shall be used to clean all surfaces after gross cleanup.

2. Cleaning. All surfaces in the work area shall be HEPA vacuumed. To pick up excess liquid and wet debris, a wet purpose shop vacuum may be used and shall be decontaminated prior to removal from the work area.

3. Windows, doors, HVAC system vents and all other openings shall remain sealed. Decontamination enclosure systems shall remain in place and be utilized.

4. All containerized waste shall be removed from the work area and the holding area.

5. All tools and equipment shall be decontaminated and removed from the work area.

6. A final visual inspection and clearance air monitoring, as per the schedule for air sampling and analysis, shall be conducted.

7. The isolation barriers and decontamination unit shall be removed only after satisfactory clearance air monitoring results have been achieved.

3.12 SAFETY MONITORING – CONSULTANT:

The Consultant will designate an Asbestos Safety Technician (AST) to represent the Owner during the removal program. The AST must be on the job site at all times during abatement work. Absolutely no abatement or preparation work will occur without the presence of the AST.

The AST will conduct four (4) milestone inspections.

1. Pre-commencement inspection shall be conducted as follows:

   a. Notification in writing to the Consultant shall be made by the Abatement Contractor to request a pre-commencement inspection at least 48 hours in advance of the desired date of inspection. This inspection shall be requested prior to beginning preparatory work in another work area.

   b. The AST shall ensure that:

      i. The job site is properly prepared and that all containment measures are in place;

      ii. The designated supervisor shall present to the inspector a valid supervisor's license issued by the New York Department of Labor;

      iii. All workers shall present to the inspector a valid handler's license issued by the New York Department of Labor;

      iv. Measures for the disposal of removed asbestos material are in place and shall conform to the adopted standards;

      v. The Abatement Contractor has a list of emergency telephone numbers at the job site which shall include the monitoring firm employed by the Owner and telephone numbers for fire, police, emergency squad, local hospital and health officer.

   c. If all is in order, the AST shall issue a written notice to proceed in the field. If the job site is not in order, then any needed corrective action must be taken before any work is to commence. Conditional approvals shall not be granted.

Progress inspection shall be conducted as follows:

   a. Primary responsibility for ensuring that the abatement work progresses in accordance with these technical specifications and regulatory requirements rests with the Abatement Contractor. The AST shall continuously be present to observe the progress of work and perform required tests.

   b. If the AST observes irregularities at any time, he shall direct such corrective action as may be necessary. If the Abatement Contractor fails to take the corrective action required, or if the Abatement Contractor or any of their employees habitually and/or excessively violate the requirements of any regulation, then the AST shall inform the Owner who shall issue a Stop Work Order to the Abatement Contractor and have the work site secured until all violations are abated.

Clean-up inspections shall be conducted as follows:

a. Notice for clean-up inspection shall be requested by the Abatement Contractor at least 24 hours in advance of the desired date of inspection;

b. The clean-up inspection shall be conducted prior to the removal of any isolation or critical barriers and before final air clearance monitoring;

c. The AST shall ensure that:

i. The work site has been properly cleaned and is free of visible asbestos containing material and debris.

ii. All removed asbestos has been properly placed in a locked secure container outside of the work area.

d. If all is in order, the AST shall issue a written notice of authorization to remove surface barriers from the work area. All isolation barriers shall remain in place until satisfactory clearance air sampling has been completed.

4. Clearance Visual Inspection shall be conducted after the removal of non-critical plastic sheeting. The AST shall insure that:

a. The work area is free of all visible asbestos or suspect asbestos debris and residue.

b. All waste has been properly bagged and removed from the work area.

c. Should clearance visual inspection identify residual debris, as determined by the AST, the Abatement Contractor is responsible for recleaning the area at his own cost and shall bear all costs of reinspection until acceptable levels are achieved.

B. The Abatement Contractor shall be required to receive written approval before proceeding after each milestone inspection.

3.13 PERSONNEL AIR MONITORING – CONTRACTOR (29 CFR 1926.1101)

A. Personnel air monitoring shall be provided to determine both short-term (STEL) and full shift during when abatement activities occur. Personnel sampling shall be performed in each work area in order to accurately determine the concentrations of airborne asbestos to which workers may be exposed.

B. The Abatement Contractor shall have a qualified "Competent Person" (as specified in 29 CFR 1926 OSHA) to conduct personnel air monitoring.

C. The laboratory performing the air sample analysis shall be certified by NYS DOH ELAP and approved by the consultant.

D. Personnel air monitoring test results for OSHA Compliance. Results shall be posted at the work site within 24 hours of testing and copies supplied to the Owner within five (5) days of testing. Abnormalities shall be supplied to the Owner immediately.

3.14 CLEARANCE AIR MONITORING

A. Air samples will be collected in and around the work areas at the completion of abatement activities.

B. Clearance samples may be analyzed using PCM to maintain compliance with ICR-56.

C. If applicable, clearance samples will be analyzed using TEM to maintain compliance with ICR-56 and 40 CFR part 763 "Asbestos-Containing Materials in Schools; Final Rule and Notice" section 763.90.

D. ***RETESTING***
Should clearance air monitoring yield fiber concentrations above the "Clearance" criteria of either 0.01 fibers per CC and/or background levels (PCM) –OR- seventy (70) structures per square millimeter (TEM/AHERA), the Abatement Contractor is responsible for re-cleaning the area at his own cost and shall bear all costs associated with the retesting of the work area(s) including monitoring labor, sampling, analysis, etc. until such levels are achieved.

3.15 RESPIRATORY PROTECTION REQUIREMENT

A. Respiratory protection shall be worn by all individuals inside the work area from the initiation of the asbestos project until all areas have successfully passed clearance air monitoring in accordance with these specifications. The Abatement Contractor shall keep available at all times two PAPR's with new filters and charged batteries for use by authorized visitors.

B. All respiratory protection shall be MSHA/NIOSH approved in accordance with the provisions of 30 CFR Part II. All respiratory protection shall be provided by the Abatement Contractor, and used by workers in conjunction with the written respiratory protection program.

C. The Abatement Contractor shall provide respirators that meet the requirements of 29 CFR Parts 1910 and 1926.

1. Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with an auxiliary self- contained breathing apparatus, operated in pressure demand or continuous flow, shall be worn during gross removal, demolition, renovation and/or other disturbance of ACM whenever airborne fiber concentrations inside the work area are greater than 10.0 f/cc.

2. Full facepiece Type C supplied-air respirators operated in pressure demand mode with HEPA filter disconnect protection shall be work during gross removal, demolition, renovation and/or other disturbance of ACM with an amphibole content and/or whenever airborne fiber concentrations inside the work area are equal to or greater than 0.5 f/cc and less than or equal to 10.0 f/cc.

3. Full facepiece powered air-purifying respirators (PAPR) equipped with HEPA filters shall be worn during the removal, encapsulation, enclosure, repair and/or other disturbance of friable ACM if airborne fiber concentrations inside the work area are less than 0.5 f/cc. A supply of charged replacement batteries, HEPA filters and flow test meter shall be available in the clean room for use with powered air-purifying respirators. HEPA filters shall be changed daily or as flow testing indicates change is necessary. Any Type C supplied-air respirator operated in continuous flow, with HEPA filter disconnect protection, may be substituted for a powered air-purifying respirator.

4. Loose fitting helmets or hoods with powered air-purifying respirators (PAPR) equipped with HEPA filters may be worn during the removal, encapsulation, enclosure, repair and/or other disturbance of friable ACM if airborne fiber concentrations inside the work area are less than 0.25 f/cc. A supply of charged replacement batteries, HEPA filters and flow test meter shall be available in the clean room for use with powered air-purifying respirators. HEPA filters shall be changed daily or as flow testing indicates change is necessary. Any Type C supplied-air respirator operated in continuous flow may be substituted for a powered air- purifying respirator.

5. Half-mask or full-face air-purifying respirators with HEPA filters shall be worn only during the preparation of the work area and final clean up procedures provided airborne fiber concentrations inside the work area are less than 0.1 f/cc.

6. Use of single use dust respirators is prohibited for the above respiratory protection.

D. Workers shall be provided with personally issued and individually marked respirators. Respirators shall not be marked with any equipment that will alter the fit of the respirator in any way. Only waterproof identification markers shall be used.

E. The Abatement Contractor shall ensure that the workers are qualitatively or quantitatively fit tested by an Industrial Hygienist initially and every six months thereafter with the type of respirator he/she will be using.

F. Whenever the respirator design permits, workers shall perform the positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.

G. No facial hair, which interferes with the face-to-mask sealing surface, shall be permitted to be worn when wearing respiratory protection that requires a mask-to-face seal.

H. Contact lenses shall not be worn in conjunction with respiratory protection.

I. If a worker wears glasses, a spectacle kit to fit their respirator shall be provided by the Abatement Contractor at the Abatement Contractor's expense.

J. Respiratory protection maintenance and decontamination procedures shall meet the following requirement:

1. Respiratory protection shall be inspected and decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134(b); and

2. HEPA filters for negative pressure respirators shall be changed after each shower; and

3. Respiratory protection shall be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedures; and

4. Airline respirators with HEPA filtered disconnect shall be disconnected in the equipment room and worn into the shower. Powered air-purifying respirator facepieces shall be worn into the shower. Filtered/power pack assemblies shall be decontaminated in accordance with manufacturers' recommendations; and

5. Respirators shall be stored in a dry place and in such a manner that the facepiece and exhalation valves are not distorted; and

6. Organic solvents shall not be used for washing of respirators.

K. No visitors shall be allowed to enter the contaminated area if they do not have their medical certification and training certificate. Authorized visitors shall be provided with suitable PAPR respirators and instructions on the proper use of respirators whenever entering the work area.

3.16 DISPOSAL OF WASTE

A. APPLICABLE REGULATIONS

1. All asbestos waste shall be stored, transported and disposed of as per, but not limited to, the following Regulations:

   a. NYS Code Rule 56

   b. U.S. Department of Transportation (DOT)
   Hazardous Substances
   Title 29, Part 171 and 172 of the code of Federal Regulations
   regarding waste collector registration

   c. Regulations regarding waste collector registration Title 6, part 364 of the New York State Official Compilation of Codes, Rules and Regulations – 6 NYCRR 364

   d. USEPA NESHAPS 40 CRF 61

   e. USEPA ASBESTOS WASTE MANAGEMENT GUIDANCE EPA/530-SW-85-007

B. TRANSPORTER OR HAULER - The Abatement Contractor shall bear full responsibility for proper characterization, transportation and disposal of all solid or liquid waste, generated during the project, in a legal manner. The Owner shall approve all transportation and disposal methods.

1. The Abatement Contractor's Transporter (hauler) and disposal site shall be approved by the Owner. The Abatement Contractor shall remove within 48 hours all asbestos waste from the site after completing the clean up.

2. The Transporter must possess and present to the Owner's representative a valid New York State Department of Environmental Conservation Part 364 asbestos hauler's permit to verify license plate and permit numbers. The Owner's representative will verify the authenticity of the hauler's permit with the proper authority.

3. The Abatement Contractor shall give 24 hour notification prior to removing any waste from the site. All waste shall be removed from site only during normal working hours. No waste may be taken from the site without authorization from the Owner's representative.

4. The Abatement Contractor shall have the Transporter give the date and time of arrival at the disposal site.

5. The Transporter with the Abatement Contractor and Owner's consultant shall inspect all material in the transport container prior to taking possession and signing the Waste Manifest. The Transporter shall not have any off site transfers or be combined with any other off-site asbestos material.

6. The Transporter must travel directly to the disposal site with no unauthorized stops.

C. WASTE STORAGE CONTAINER

1. During loading and on site storage, the asbestos waste container shall be labeled with EPA Danger signage:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

2. The NYS DEC Hauler's Permit number shall be on both sides and back of the container.

3. The Container will not be permitted to leave the site without the proper signage.

4. A copy of the completed waste manifest shall be forwarded directly to the Owner's Consultant by the disposal facility.

5. Packaging of Non-friable Asbestos. Use of an open top container shall require written request, by the Contractor, and written approval by the Owners Representative, and be performed in compliance with all applicable regulations.

   a) A chute, if used, shall be air/dust tight along its lateral perimeter and at the terminal connection to the dumpster at ground level (solid wall and top container). The upper end of the chute shall be furnished with a hinged lid, to be closed when the chute is not being used.

   b) The container shall be lined with a minimum of two (2) layers of 6 mil. Fire-retardant polyethylene draped loosely over the sides so as to facilitate being wrapped over the top of the load and sealed prior to transport from the site.

   c) Prior to transport from the work site the Dumpster will be disconnected from the chute and sealed air/dust tight utilizing six mil plastic and tape. The waste material will be transported as an asbestos containing material by appropriate legal methods.

6. Packaging Friable Asbestos.

   a) The container shall be a solid wall, hard top and lockable container.

   b) The container shall be locked upon arrival at the site to restrict access. Security shall be provided at the entrance to the container during the loading process and immediately locked upon completion.

   c) The interior walls, floor and ceiling shall be lined with two (2) layers of 6 mil. Fire-retardant polyethylene.

d) The waste shall be loaded in such a manner as to protect the integrity of the individual waste packages.

e) Prior to transport from the work site the interior of the Dumpster will sealed air/dust tight utilizing six mil plastic and tape. The waste material will be transported as an asbestos containing material by appropriate legal methods.

D. WASTE DISPOSAL MANIFEST

1. The Asbestos Waste Manifest shall be equivalent to the "Waste Shipment Record" included in 40 CFR 61. A copy of the Contractor's manifest shall be reviewed by the Owner's Consultant and shall be the only manifest used.

2. The Manifest shall be verified by the Owner's Consultant indicating that all the information and amounts are accurate and the proper signatures are in place.

3. The Manifest shall have the signatures of the Abatement Contractor and the Transporter prior to any waste being removed from the site.

4. The Manifest shall be signed by the Disposal Facility owner or operator to certify receipt of asbestos containing materials covered by the manifest.

5. A copy of the completed manifest shall be provided by the Abatement Contractor to the Owner's Consultant and remain on site for inspection.

6. Abatement Contractor shall maintain a waste disposal log which indicates load number, date and time left site, container size, type of waste, quantity of waste, name of hauler, NYS DES permit number, trailer and tractor license number, and date manifest was returned to Consultant.

7. The Disposal Facility owner or operator shall return a signed copy of the Waste Manifest directly to:

South Orangetown CSD

160 Van Wyck Road

Blauvelt, New York 10913

ATTN: Jack Rallo

8. Copies of the completed Waste Manifest are to be sent by the disposal facility to the Hauler and Abatement Contractor.

9. Submit signed dump tickets and manifests with final payment request.

10. Final payment request will not be honored without signed dump ticket or manifests accounting for all asbestos waste removed from the site.

E. VIOLATIONS OF SPECIFICATIONS

1. Violations of the safety, hygiene, environmental, procedures herein, any applicable federal, and state of local requirement s or failure to cooperate with the Owner's representative shall be grounds for dismissal and/or termination of this contract.

F. VIOLATIONS OF NO SMOKING POLICY

1. The Federal Pro Children Act of 1994 prohibits School District Officials from smoking in any buildings or on the grounds that is property of the School District. The District shall be considered smoke free. The School District strongly enforces its' No Smoking Policy. It is the Contractor's responsibility to inform all workers of this policy. Any worker(s) involved with this project that are found smoking or using tobacco products will be informed that they are in violation of the Federal and State Law and School Board Policy and will be removed from site.

3.17. A LOCATION OF SOUTH ORANGETOWN CSD – PAHES 1: 2022 BOND WORK – BASE BID

(Please see attached Drawings for approximate locations)

1) **<u>William O Schaefer ES (Interiors) – Floor Tile and Mastic Removal:</u>**

- Asbestos abatement contractor responsible for complete and total removal and disposal of approximately 23,000 SF of non-friable asbestos-containing floor tile & mastic/adhesive. Removals shall include all non-ACM flooring layers above the ACM 9"x9" floor tile and ACM mastic bottom layer to the non-ACM concrete substrate. Asbestos abatement contractor is responsible for providing all demolition activities required to access materials, as well as for providing all labor, equipment, and materials necessary**.** The following rooms/spaces are included in the scope of work (see drawing WOS HZ100 for room locations as room numbers may change from time of inspection):
  - Rooms/Classrooms 1-3, 6, 15-17, 19, 21, 24, 26, 30, 32, 37, 57, 59, 61-68, 70 and 104.

2) **<u>William O Schaefer ES (Interiors) – Sink Anti-sweat Tar Removal:</u>**

- Asbestos abatement contractor responsible for complete and total removal and disposal of approximately 36 SF of non-friable asbestos-containing sink anti-sweat tar on twelve (12) metal sink basins. Asbestos abatement contractor responsible for performing all demolition activities required to access materials identified in work scope(s) and on associated drawings, as well as for providing all equipment necessary to access material(s). Plumbing disconnects shall be coordinated with, and provided by, the owner and/or general contractor. The following rooms/spaces are included in the scope of work (see drawing WOS HZ100 for room locations as room numbers may change from time of inspection):
  - Rooms/Classrooms 15, 57, 59, 61-68, and 70.

3) **<u>Cottage Lane ES (Interiors) – Ceiling Tile Glue Dab Removal:</u>**

- Asbestos abatement contractor responsible for complete and total removal and disposal of approximately 5,700 SF of non-ACM 1'x1' ceiling tiles with non-friable asbestos-containing glue dabs on non-ACM sheetrock ceilings. Asbestos abatement contractor responsible for removal of nonACM suspended ceiling system below the ACM glue dabs. Prior to abatement, a contamination assessment shall be performed by the owner's consultants to determine the extent of any contamination present from delaminating ACM glue dabs and their associated debris on the suspended ceiling system. If debris exceeds 10SF at the time of the contamination assessment, a site-specific variance shall be requested from the NYSDOL for the cleanup of any debris, along with the subsequent abatement of intact ACM materials. The following rooms/spaces are included in the scope of work (see drawing CLE HZ100 for room locations as room numbers may change from time of inspection):
- Rooms/Classrooms 105-111 (seven rooms).

<u>Note to all contractors</u>: ACM floor tiles and/or mastic was identified throughout most classrooms that may exist under unit ventilator locations under non-ACM 1'x1' floor tiles. If the removal of unit ventilators disturbs this material, work must stop immediately, and the construction manager should be notified.

END OF LOCATION OF WORK

3.18 GENERAL

A. The Abatement Contractor will be responsible for repairing all building components damaged during abatement including, but not limited to: ceiling tiles, ceiling finishes, wall finishes, floor finishes, etc.

B. The Abatement Contractor shall be responsible for all demolition required to access materials identified in scope of work and on associated drawings.

C. Concealed conditions that are exposed and may require additional work shall be brought to the attention of the Owner immediately. The Abatement Contractor shall not abate these areas without a written notice to proceed. Additional asbestos abatement performed prior to the order to proceed will not be acknowledged.

D. The Abatement Contractor shall remove asbestos-containing floor covering to the building substrate beneath; in areas indicted. Subsequent to final air clearance the substrate shall be washed with a neutralizing agent to prepare the substrate to accept new floor covering and eliminate residual odors.

E. Power tools used to drill, cut into or otherwise disturb asbestos containing material shall be equipped with HEPA filtered local exhaust ventilation.

F. The Abatement Contractor shall provide access to GFCI electrical power, required to perform the area air monitoring for this project, within and immediately adjacent to each work area.

G. Unwrapped or unbagged ACM shall be immediately placed in an impermeable waste bag or wrapped in plastic sheeting.

H. Coordinate all removal operations with the Owner.

Asbestos Employee Medical Examination Statement
Certificate of Worker Release
Asbestos Employee Training Statement
CERTIFICATE OF WORKERS'S ACKNOWLEDGEMENT

PROJECT NAME: **South Orangetown CSD – Phase 1: 2022 Bond Work @**
Cottage Lane ES and Willaim O. Schaefer ES

CONTRACTOR'S NAME: _____

WORKING WITH ASBESTOS INVOLVES POTENTIAL EXPOSURE TO AIRBORNE ASBESTOS FIBERS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER AND RESPIRATORY DISEASES. SMOKING CIGARETTES AND INHALATION OF ASBESTOS FIBERS INCREASES THE RISK THAT YOU WILL DEVELOP LUNG CANCER ABOVE THAT OF THE NON-SMOKING PUBLIC.

The Contract for this project requires your employer to 1) supply proper respiratory protection devices and training on their use 2) provide training on safe work practices and on use of the equipment used on the project 3) provide a medical examination meeting the requirements of 29 CFR 1926.1101. Your signature on this certificate, documents that your employer has fulfilled these contractual obligations and you understand the information presented to you.

****DO NOT SIGN THIS FORM UNLESS YOU FULLY UNDERSTAND THIS INFORMATION****

RESPIRATORY PROTECTION: I have been trained in the proper use and limitations of the type of respiratory protection devices to be used on this project. I have reviewed the written respiratory protection program manual and a copy is available for my use. Respiratory protection equipment has been proved, by the Contractor, at no cost to me.

TRAINING COURSE: I have been trained in the risks and dangers associated with handling asbestos, breathing asbestos dust, proper work procedures, and personal protection and engineering controls. I have satisfactorily completed and Asbestos Safety Training Program for New York State and have been issued a New York State Department of Health Certificate of Asbestos Safety Training.

MEDICAL EXAMINATION: I have satisfactorily completed a medical examination within the last 12 months that meets the OSHA requirement for an asbestos worker and included at least 1) medical history 2) pulmonary function 3) medical examination 4) approval to wear respiratory protection devises and may have included an evaluation of a chest x-ray.

Signature: _____Date_____

Printed Name: _____SS#:_____

Witness: _____Date:_____

RETURN THIS EXECUTED FORM WITH COMPLETED BID SHEET

South Orangetown CSD – Phase 1: 2022 Bond Work @

Cottage Lane ES and Willaim O. Schaefer ES

ESTIMATE OF ACM QUANTITIES

****

EACH ABATEMENT CONTRACTOR SHALL READ AND ACKNOWLEDGE THE FOLLOWING NOTICE. A SIGNED AND DATED COPY OF THIS ACKNOWLEDGMENT SHALL BE SUBMITTED WITH THE ABATEMENT CONTRACTOR'S BID FOR THIS PROJECT. FAILURE TO DO SO MAY, AT THE SOLE DISCRETION OF THE OWNER, RESULT IN THE BID BEING CONSIDERED NON-RESPONSIVE AND RESULT IN DISQUALIFICATION OF THE ABATEMENT CONTRACTOR'S BID ON THIS PROJECT.

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*** **NOTICE** ***

The linear and square footages listed within this specification are approximates. Abatement Contractor is required to visit the work locations prior to bid submittal in order to take actual field measurements within each listed location. The Abatement Contractor shall base their bid on actual quantities determined, by them, at the site walkthrough. Estimates provided in these specifications are for informational purposes only and shall not be considered a basis for Change Orders on this project.

****

Acknowledgment: I have read and understand the above **NOTICE** regarding removal quantity estimates and understand that estimates provided in these specifications are for informational purposes only and shall not be considered a basis for Change Orders on this project. The Abatement Contractor's signatory represents to the Owner that he/she has the authority of the entity he/she represents to sign this agreement on its behalf.

Company Name: _____
Type or Print

BY: _____ _____ _____
Signature Title Date

Print Name: _____

RETURN THIS EXECUTED FORM WITH COMPLETED BID SHEET

ASSOCIATED ASBESTOS REMOVAL LOCATION DRAWINGS

- ***South Orangetown CSD: Phase 1 Bond Work***
  DRAWING #CLE HZ100 – Cottage Lane ES Asbestos Removal Locations
  DRAWING #WOS HZ100 – William O. Schaefer ES Asbestos Removal Locations

END OF SPECIFICATION
SECTION 020800

SECTION 024100
DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Selective demolition of built site elements.

B. Selective demolition of building elements for alteration purposes.

C. Cutting and Patching

1.2 RELATED REQUIREMENTS

A. Section 003119 - Existing Condition Information: Existing building survey conducted by Owner; information about known hazardous materials.

B. Section 003126 - Existing Hazardous Material Information: Testing of building elements conducted by Owner, scheduled for demolition, for hazardous materials content.

C. Section 003132 - Geotechnical Data: Testing of sub-surface soil conditions conducted by Owner.

D. Section 011000 - Summary: Limitations on Contractor's use of site and premises.

E. Section 011000 - Summary: Sequencing and staging requirements.

F. Section 011000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

G. Section 011200 - Multiple Contract Summary: Responsibilities of each contract for the Work and coordination between each contract.

H. Section 015001 - Temporary Facilities and Controls - Multiple Prime Contracts: Site fences, security, protective barriers, and waste removal.

I. Section 016000 - Product Requirements: Procedural requirements for product, material, and equipment selection and handling; warranties and comparable products.

J. Section 017300 - Execution: General requirements for product installation; cutting and patching; protection of bench marks, survey control points, and existing construction to remain; field engineering; temporary bracing and shoring and progress cleaning.

K. Section 017700 - Closeout Procedures: Contract closeout including Substantial Completion and Final Completion procedures, warranties, and final cleaning.

L. Section 311000 - Site Clearing: Vegetation and existing debris removal.

M. Section 312200 - Grading: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

N. Section 312323 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

1.3 DEFINITIONS

A. Demolition / Demolish: Dismantle, raze, destroy or wreck any building or structure or any part thereof.

B. Remove: Detach or dismantle items from existing construction and legally dispose of them off site, unless items are indicated to be salvaged or reinstalled.

C. Remove and Salvage: Detach or dismantle items from existing construction in a manner to prevent damage. Clean, package, label and deliver salvaged items to Owner in ready-for-reuse condition.

D. Remove and Reinstall: Detach or dismantle items from existing construction in a manner to prevent damage. Clean and prepare for reuse and reinstall where indicated.

E. Extract: Detach or dismantle items from existing construction in a manner to prevent damage, then perform one of the following as indicated on drawings:

1. Clean, package, label extracted items and deliver them to Owner.
2. Clean and prepare extracted items for reuse and reinstall them where indicated.

F. Existing to Remain: Designation for existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.4 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2022, with Errata (2021).

1.5 MATERIALS OWNERSHIP

A. Historic 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 Owner that may be encountered, or uncovered, during selective demolition remain Owner's property. Carefully remove and salvage, or extract, each item or object in a manner to prevent damage and promptly deliver to Owner.

1.6 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Qualification Data: For refrigerant recovery technician.

C. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property.

D. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with start and end dates for each activity. Ensure Owner's on-site operations are uninterrupted.
2. Interruption of utility services: Indicate how long utility services will be interrupted.
3. Coordination of shutoff, capping and continuation of utility services.
4. Use of elevators and stairs.
5. Coordination with Owner's occupancy prior to, during and after the Work.

E. Inventory: Submit a list of items to be removed and salvaged, or extracted, and delivered to Owner prior to start of demolition.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed to EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Warranties: Documentation that existing warranties are still in effect after completion of selective demolition.

H. Site Plan: Indicate:

1. Vegetation to be protected.
2. Areas for temporary construction and field offices.
3. Areas for temporary and permanent placement of removed materials.

I. Demolition Plan: Submit demolition plan as required by OSHA and local AHJs.

1. Indicate extent of demolition, removal sequencing, bracing and shoring, and location and construction of barricades and fences.
2. Summary of safety procedures.
3. Demolition firm qualifications.

J. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged, or extracted.

B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA regulations prior to beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.9 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purposes will be maintained by Owner as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings prior to proceeding with selective demolition.

D. Hazardous Materials: Hazardous materials are present in building(s) and structure(s) to be selectively demolished. A report on the presence of hazardous materials can be reviewed at the office of the Owner. Examine report to become aware of hazardous material locations.

1. Hazardous material remediation is specified elsewhere in the Contract Documents.
2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in building(s) and structure(s) to be selectively demolished.

E. Storage or sale of removed items or materials on-site is prohibited.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition.

1.10 WARRANTY

A. Notify warrantor upon completion of selective demolition and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 PRODUCTS

2.1 MATERIALS

A. Fill Material: See Section 312323.

PART 3 EXECUTION

3.1 DEMOLITION

A. Remove portions of existing building(s) as indicated on drawings.

B. Remove paving and curbs required to accomplish new work.

C. Remove other items indicated, for salvage and relocation.

3.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with other requirements specified in Section 017300 and 017700.

B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Comply with applicable requirements of NFPA 241.
3. Use of explosives is not permitted.
4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
5. Provide, erect, and maintain temporary barriers and security devices.
6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.

9. 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.
10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

E. Engage a licensed Professional Engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
   1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

F. Survey of Existing Conditions: Record existing conditions by use of measured drawings.
   1. Inventory and record the condition of items to be removed and salvaged, or extracted. Provide photographs of conditions that might be misconstrued as damage caused by salvage or demolition operations.
   2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

G. Do not begin removal until receipt of notification to proceed from Owner.

H. Do not begin removal until built elements to be salvaged or relocated have been removed.

I. Do not begin removal until vegetation to be relocated has been removed and vegetation to remain has been protected from damage.

J. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

K. 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.

L. Hazardous Materials:
   1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.

M. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Comply with requirements of Section 017419 - Construction Waste Management and Disposal.

2. Dismantle existing construction and separate materials.
3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

N. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

O. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.3 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. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. 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.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. 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.

I. Verify that utilities have been disconnected and capped before starting selective demolition operations.

3.4 PREPARATION FOR SELECTIVE DEMOLITION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
   2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
   3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
   4. Cover and protect furniture, furnishings, and equipment that have not been removed.
   5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 01 Section "Temporary Facilities and Controls."

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
   1. Strengthen or add new supports when required during progress of selective demolition.

3.5 SELECTIVE DEMOLITION - GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
   2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
   3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.
    a. Comply with requirements in Division 1 "Construction Waste Management and Disposal".

B. Removed and Salvaged Items or Extracted Items to be Returned to Owner:
1. Clean salvaged/extracted items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items or Extracted Items to be Reinstalled:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 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.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from areas that remain occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 015000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

D. Remove existing work as indicated and required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction indicated.
   2. Remove items indicated on drawings.
      a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
      b. Equipment to Be Removed: Disconnect and cap services and remove equipment.
      c. Equipment to Be Removed, or extracted, and Reinstalled: Disconnect and cap services then remove/extract, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
      d. Equipment to Be Removed, or extracted, and Salvaged: Disconnect and cap services then remove/extract equipment and deliver to Owner.
      e. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

E. Existing Services/Systems to Be Removed, Relocated, or Abandoned: (Including but not limited to HVAC, Plumbing, and Electrical): Remove existing systems and equipment as indicated.
   1. Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/plumbing/electrical systems serving areas to be selectively demolished.
   2. Owner will arrange to shut off indicated services/systems when requested by Contractor.
   3. Maintain existing active systems that are to remain in operation and protect them from damage; maintain access to equipment and operational components.

a. Comply with requirements for existing services/systems interruptions specified in Division 1 "Summary."

4. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
5. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
6. See Section 011000 - Summary for limitations on outages and required notifications.
7. Verify that abandoned services serve only abandoned facilities before removal.
8. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap or plug stub with same or compatible materials and tag with identification.
   a. Drain piping prior to abandonment.

F. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

G. Protect existing work to remain.
1. Prevent movement of structure. Provide shoring and bracing as required.
2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch to match new work.

3.7 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

B. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

C. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.
1. If tile is removed by asbestos abatement refer to specific removal requirements in part 3 of the asbestos abatement specification.

D. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains water tight and weather tight. See Division 7 Section(s) for new roofing requirements.

1. Remove existing roof membrane, flashings, copings, and roof accessories.
2. Remove existing roofing system down to substrate.

E. Mechanical Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

3.8 DEBRIS AND WASTE REMOVAL

A. General: Except for items or materials indicated to be reused, salvaged, extracted, reinstalled or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
   1. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   2. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Remove all Work related debris, junk, and trash from Owner's property and legally dispose them.

C. Leave site in clean condition, ready for subsequent work and/or Owner occupancy.

D. Clean up spillage and wind-blown debris from public and private lands adjacent to Work site.

E. Do not burn demolished materials.

3.9 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by structure and/or selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Concrete formwork.

B. Floors and slabs on grade.

C. Concrete foundation walls.

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 079200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

1.3 REFERENCE STANDARDS

A. ACI 117 - Specification for Tolerances for Concrete Construction and Materials 2010 (Reapproved 2015).

B. ACI 211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.

C. ACI 301 - Specifications for Concrete Construction 2020.

D. ACI 302.1R - Guide to Concrete Floor and Slab Construction 2015.

E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete 2000 (Reapproved 2009).

F. ACI 305R - Guide to Hot Weather Concreting 2020.

G. ACI 306R - Guide to Cold Weather Concreting 2016.

H. ACI 308R - Guide to External Curing of Concrete 2016.

I. ACI 318 - Building Code Requirements for Structural Concrete 2019 (Reapproved 2022).

J. ACI 347R - Guide to Formwork for Concrete 2014 (Reapproved 2021).

K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement 2022.

L. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete 2022.

M. ASTM C33/C33M - Standard Specification for Concrete Aggregates 2018.

N. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.

O. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2022a.

P. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens) 2021.

Q. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete 2020.

R. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete 2020.

S. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method 2016.

T. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete 2019.

U. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete 2017a.

V. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete 2019, with Editorial Revision (2022).

W. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete 2022.

X. ASTM C827/C827M - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures 2016.

Y. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete 2020a.

Z. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete 2021.

AA. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink) 2020.

BB. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures 2020.

CC. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete 2019.

DD. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2018.

EE. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types) 2018.

FF. 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 2018a.

GG. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs 2017.

HH. NSF 61 - Drinking Water System Components - Health Effects 2022, with Errata.

II. NSF 372 - Drinking Water System Components - Lead Content 2022.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit proposed concrete mix design.

1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.

D. Test Reports: Submit report for each test or series of tests specified.

E. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

1. Maintain one copy of each document on site.

B. Follow recommendations of ACI 305R when concreting during hot weather.

C. Follow recommendations of ACI 306R when concreting during cold weather.

D. For slabs required to include moisture vapor reduction admixture (MVRA), do not proceed with placement unless manufacturer's representative is present for every day of placement.

1.6 WARRANTY

A. See Section 017700 - Closeout Procedures, for additional warranty requirements.

B. Slabs with 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 manufacturer of MVRA matching terms of flooring adhesive or primer manufacturer's material defect warranty.

C. Moisture Emission-Reducing Curing and Sealing Compound, Membrane-Forming: Provide warranty to cover cost of flooring delamination failures for 10 years.
   1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

D. Moisture Emission-Reducing Curing and Sealing Compound, Penetrating: Provide non-prorated warranty to cover cost of flooring delamination failures for 20 years.
   1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

PART 2 PRODUCTS

2.1 FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 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 (38 mm) of concrete surface.

2.2 REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).

B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
   1. Form: Flat Sheets.

C. Reinforcement Accessories:
   1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch (1.29 mm).
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

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.

C. Lightweight Aggregate: ASTM C330/C330M.

D. Fly Ash: ASTM C618, Class C or F.

E. Calcined Pozzolan: ASTM C618, Class N.

F. Silica Fume: ASTM C1240, proportioned in accordance with ACI 211.1.

G. 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. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.

C. High Range Water Reducing Admixture: ASTM C494/C494M Type F.

D. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.

E. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.

F. Accelerating Admixture: ASTM C494/C494M Type C.

G. Moisture Vapor Reduction Admixture (MVRA): Liquid, inorganic admixture free of volatile organic compounds (VOCs) and formulated to close capillary systems formed during curing to reduce moisture vapor emission and transmission with no adverse effect on concrete properties or finish flooring.
   1. Provide admixture in slabs to receive adhesively applied flooring.
   2. Manufacturers:
      a. Barrier One, Inc; Barrier One Moisture Vapor Reduction Admixture: www.barrierone.com/#sle.
      b. Hycrete, Inc; _____: www.hycrete.com/#sle.

c. ISE Logik Industries, Inc; MVRA 900: www.iselogik.com/#sle.

d. Specialty Products Group; Vapor Lock 20/20: www.spggogreen.com/#sle.

2.5 ACCESSORY MATERIALS

A. Underslab Vapor Retarder: Sheet material complying with ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. The use of single ply polyethylene is prohibited.

1. Installation: Comply with ASTM E1643.
2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
3. Manufacturers:
   a. Fortifiber Building Systems Group ; Moistop Ultra 10: www.fortifiber.com/#sle.
   b. ISI Building Products; Viper VaporCheck II 10-mil (Class A): www.isibp.com/#sle.
   c. Stego Industries, LLC; 10-mil: www.stegoindustries.com/#sle.
   d. W. R. Meadows, Inc; PERMINATOR Class A - 10 mils (0.25 mm): www.wrmeadows.com/#sle.

B. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.

1. Grout: Comply with ASTM C1107/C1107M.
2. Height Change, Plastic State; when tested in accordance with ASTM C827/C827M:
   a. Maximum: Plus 4 percent.
   b. Minimum: Plus 1 percent.
3. Minimum Compressive Strength at 28 Days, ASTM C109/C109M: 7,000 pounds per square inch (48 MPa).

2.6 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.

1. Manufacturers:
   a. Euclid Chemical Company; AKKRO-7T: www.euclidchemical.com/#sle.
   b. Kaufman Products Inc; SureBond: www.kaufmanproducts.net/#sle.
   c. Kaufman Products Inc; SureWeld: www.kaufmanproducts.net/#sle.

B. Epoxy Bonding System:

1. Complying with ASTM C881/C881M and of Type required for specific application.
2. Manufacturers:
   a. Adhesives Technology Corporation; Crackbond SLV-302, Crackbond LR-321, Crackbond LR-321 LPL, Ultrabond 2100 LPL, Ultrabond 2100, Ultrabond 1, Ultrabond 2, or Ultrabond HS200: www.atcepoxy.com/#sle.
   b. Euclid Chemical Company; DURAL FAST SET LV: www.euclidchemical.com/#sle.
   c. Euclid Chemical Company; DURALFLEX GEL: www.euclidchemical.com/#sle.
   d. Euclid Chemical Company; DURALFLEX LV: www.euclidchemical.com/#sle.
   e. Euclid Chemical Company; DURAL 452 GEL, DURAL 452 LV, or DURAL 452 MV: www.euclidchemical.com/#sle.
   f. Kaufman Products Inc; SurePoxy HM EPL: www.kaufmanproducts.net/#sle.
   g. Kaufman Products Inc; SurePoxy HM Class B: www.kaufmanproducts.net/#sle.
   h. SpecChem, LLC; SpecPoxy 1000, SpecPoxy 2000, SpecPoxy 3000, or SpecPoxy 3000FS: www.specchemllc.com/#sle.
   i. W. R. Meadows, Inc; Rezi-Weld Gel Paste, Rezi-Weld Gel Paste State, Rezi-Weld 1000: www.wrmeadows.com/#sle.

C. Waterstops: Bentonite and butyl rubber, complying with NSF 61 and NSF 372.
   1. Manufacturers:
      a. CETCO, a division of Minerals Technologies Inc; WATERSTOP RX: www.mineralstech.com/#sle.

D. Reglets: Formed steel sheet, galvanized, with temporary filler to prevent concrete intrusion during placement.

E. Slab Isolation Joint Filler: 1/2 inch (13 mm) thick, height equal to slab thickness, with removable top section that will form 1/2 inch (13 mm) deep sealant pocket after removal.
   1. Material: ASTM D1751, cellulose fiber.

2.7 CURING MATERIALS

A. Curing and Sealing Compound, Moisture Emission-Reducing, Penetrating: Liquid for application to newly-placed concrete; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission, moisture vapor emission, and alkalinity.
   1. Use this product to cure and seal all slabs to receive adhesively applied flooring or roofing.
   2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 28-day water cure when tested according to ASTM C39/C39M.

3. Comply with ASTM C309 and ASTM C1315 Type I Class A.
4. VOC Content: Zero.

B. Curing Compound, Non-dissipating: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C309.
1. Vehicle: Water-based.
2. Gloss: Low.
3. Solids by Mass: 15 percent, minimum.
4. VOC Content: OTC compliant.

C. Curing and Sealing Compound, Low Gloss: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C1315 Type 1 Class A.
1. Vehicle: Water-based.
2. Solids by Mass: 25 percent, minimum.
3. VOC Content: OTC compliant.

D. Moisture-Retaining Sheet: ASTM C171.
1. Polyethylene film, white opaque, minimum nominal thickness of 4 mil, 0.004 inch (0.102 mm).

2.8 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 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 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 211.1 and at rates recommended or required by manufacturer.

D. Normal Weight Concrete: Footings and Buried Foundations.
1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,500 pounds per square inch.
2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
3. Cement Content: Minimum 475 pound sper cubic foot.
4. Water-Cement Ratio: Maximum 50 percent by weight.
5. Maximum Slump: 3 1/2 inches. (+/- 1")
6. Maximum Aggregate Size: 1 inch.

E. Normal Weight Concrete: Slab-on -Grade (interior).

1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,500 pounds per square inch.
2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
3. Cement Content: Minimum 540 pounds per .
4. Water-Cement Ratio: Maximum 45 percent by weight.
5. Maximum Slump: 3 1/2 inches. (+/-1")
6. Maximum Aggregate Size: 3/4 inch (19 mm).

F. Normal Weight Concrete: Exterior Slabs and Retaining Walls.

1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 5,000 pounds per square inch (34.5 MPa).
2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
3. Cement Content: Minimum 590 pounds per cubic foot.
4. Water-Cement Ratio: Maximum 45 percent by weight.
5. Total Air Content: 6 percent, (+/-1") determined in accordance with ASTM C173/C173M.
6. Maximum Slump: 3 1/2 inches.
7. Maximum Aggregate Size: 1 1/2 inches.

2.9 MIXING

A. Transit Mixers: Comply with ASTM C94/C94M.

B. 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.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. 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.

C. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches (150 mm). Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.3 INSTALLING REINFORCEMENT, ANCHOR RODS, AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 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.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

D. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303. Misplaced or damaged anchor rods shall be subject to re-engineering fees.
2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
3. Install dovetail anchors in concrete structures as indicated.

3.4 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

F. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.5 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch (5 mm) thick blade and cut at least 1 inch (25 mm) deep but not less than one quarter (1/4) the depth of the slab.

3.6 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:

1. Exposed Concrete Floors: 1/4 inch (6 mm) in 10 feet (3 m).
2. Under Seamless Resilient Flooring: 1/4 inch (6 mm) in 10 feet (3 m).
3. Under Carpeting: 1/4 inch (6 mm) in 10 feet (3 m).

B. Correct the slab surface if tolerances are less than specified.

C. 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. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch (6 mm) or more in height. Provide finish as follows:

1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

C. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:

1. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.

2. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.8 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. 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.

C. Surfaces Not in Contact with Forms:

1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water-fog spray or saturated burlap.
   a. Spraying: Spray water over floor slab areas and maintain wet.
   b. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place.
3. Final Curing: Begin after initial curing but before surface is dry.
   a. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.9 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

D. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards (76 cu m) or less of each class of concrete placed.

E. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

F. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

G. Slab Testing: Cooperate with manufacturer of specified moisture vapor reduction admixture (MVRA) to allow access for sampling and testing concrete for compliance with warranty requirements.

3.10 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.

3.11 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

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SECTION 051200

STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Structural steel.

1.2 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, holes, and other pertinent data.
2. Include embedment drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts.
5. For structural-steel connections indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Welding certificates.

D. Qualification Data: For Installer, fabricator, professional engineer and testing agency.

E. Mill and Product Test Reports: Signed by manufacturers certifying that the following products comply with requirements:

1. Structural steel including chemical and physical properties.
2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
3. Shop primers.
4. Nonshrink grout.

F. Source quality-control test reports.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE.

B. Fabricator Qualifications: A qualified fabricator who participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

C. Fabricators certified under the AISC Quality Certification Program in a category of structural steel work appropriate to the work defined are exempt from Special Inspection requirements for “On premises inspection of fabricated items”, and “Review each Fabricator’s quality control procedures” as listed in Division 01 Section “Code Required Special Inspections and Procedures.” Non-AISC fabricators shall be subject to these special inspections, and shall be responsible for the inspection costs associated with these inspections.

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."

E. Comply with applicable provisions of the following specifications and documents:
   1. AISC's "Code of Standard Practice for Steel Buildings and Bridges."
   2. AISC's "Seismic Provisions for Structural Steel Buildings" and "Supplement No. 2."
   3. AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
   4. AISC's "Specification for the Design of Steel Hollow Structural Sections."
   5. AISC's "Specification for Allowable Stress Design of Single-Angle Members."
   6. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

G. Survey of existing conditions,

H. Field quality-control and special inspection reports.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.
   1. Store fasteners in a protected place. Clean and re-lubricate bolts and nuts that become dry or rusty before use.
   2. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.6 COORDINATION

A. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repairs or replace damaged materials or structures as directed.

B. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

C. Coordinate installation on anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand ASD-service loads indicated and comply with other information and restrictions indicated.

1. Select and complete connections using schematic details indicated and AISC's "Manual of Steel Construction – 13th Edition, Allowable Stress Design," Part 9.
2. Engineering Responsibility: Fabricator's responsibilities include using a qualified professional engineer to prepare structural analysis data for structural-steel connections.

2.2 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A 992 [and ASTM A 572, Grade 50].

B. Channels, Angles-Shapes: ASTM A 36 [and ASTM A 572, Grade 50].

C. Plate and Bar: ASTM A 36 [and ASTM A 572, Grade 50].

D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

E. Welding Electrodes: Comply with AWS requirements.

2.3 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563, Grade C, heavy hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.

1. Direct-Tension Indicators: ASTM F 959, Type 325 compressible-washer type with plain finish.

B. Clevises and Turnbuckles: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1035.

C. Eye Bolts and Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1030.

D. Sleeve Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1018.

2.4 PRIMER

A. Primer: Comply with Division 09 Sections “Exterior Painting,” “Interior Painting,” and “High Performance Painting.”

B. Primer: Fabricator’s standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible topcoat.

C. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.5 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."

1. Identify high-strength structural steel according to ASTM A 6 and maintain markings until structural steel has been erected.
2. Mark and match-mark materials for field assembly.
3. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
4. Fabricate beam with rolling camber up.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.B

C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

1. Do not thermally cut bolt holes or enlarge holes by burning.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 3, "Power Tool Cleaning.

F. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.

1. Cut, drill, or punch holes perpendicular to steel surfaces.
2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
   1. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
   2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

2.7 SHOP PRIMING

A. Shop prime steel surfaces except the following:
   1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
   2. Surfaces to be field welded.
   3. Galvanized surfaces.
   4. Machined or milled surfaces.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
   1. SSPC-SP 3, "Power Tool Cleaning."

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a dry film thickness of not less than 1.5 mils and an average thickness of 2.0 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
   1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
   2. Apply two coats of shop paint to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish it from first.

D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPCPS Guide 7.00, “Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems,” to provide a dry film thickness of not less than 1.5 mils.

2.8 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123.
   1. Fill vent and drain holes by plugging with zinc solder and filing off smooth.
   2. Galvanize lintels and shelf angles attached to structural-steel frame and located in exterior walls.

2.9 SOURCE QUALITY CONTROL

A. Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
   1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
   2. AISC Quality-Certified Fabricator: Owner will waive testing and inspection.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present, for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place, unless otherwise indicated.
   1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."

B. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting base and bearing plates. Clean bottom surface of base and bearing plates.
   1. Set base and bearing plates for structural members on wedges, shims, or setting nuts as required.
   2. Weld plate washers to top of base plate.

3. Promptly pack grout solidly between bearing surfaces and base or bearing plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Do not use thermal cutting during erection unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1.

F. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened, except slip critical for wind frames and moment connections.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design" for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.
2. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Verify structural –steel materials and inspect steel frame joint details.
2. Verify weld materials and inspect welds.
3. Verify connection materials and inspect high-strength bolted connections.

B. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.

C. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: Field welds will be visually inspected according to AWS D1.1.

E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.

B. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists and accessories, bearing plates, and abutting structural steel.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

C. Touchup Painting: Cleaning and touchup painting are specified in Division 09 Sections “Exterior Painting” and “Interior Painting”.

D. Touchup Priming: Cleaning and touchup priming are specified in Division 09 Sections “High Performance Coatings,” “Exterior Painting,” and “Interior Painting.”

END OF SECTION

SECTION 053100
STEEL DECKING

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

A. Section 051200 - Structural Steel Framing: Support framing for openings larger than 18 inches (450 mm) and shear stud connectors.

1.2 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.

B. ASTM A108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished 2018.

C. ASTM A510/A510M - Standard Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel 2020.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.

E. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

F. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel 2018.

G. ICC-ES AC43 - Acceptance Criteria for Steel Deck Roof and Floor Systems 2022.

H. ICC-ES AC70 - Acceptance Criteria for Power-Actuated Fasteners Driven into Concrete, Steel and Masonry Elements 2019, with Editorial Revision (2021).

I. SDI (DM) - Publication No.30, Design Manual for Composite Decks, Form Decks, and Roof Decks 2007.

J. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 2004.

K. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic) 2019.

1.3 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittals procedures.

1.4 QUALITY ASSURANCE

A. Design deck layout, spans, fastening, and joints under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

B. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M and dated no more than 12 months before start of scheduled welding work.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Steel Deck:
   1. Canam Steel Corporation: www.canam-steeljoists.ws.
   2. Cordeck, Inc: www.cordeck.com/#sle.
   3. New Millenium Building Systems: www.newmill.com.
   4. Nucor-Vulcraft Group: www.vulcraft.com/#sle.

2.2 STEEL DECK

A. All Deck Types: Select and design metal deck in accordance with SDI Design Manual.
   1. Calculate to structural working stress design and structural properties specified.
   2. Maximum Vertical Deflection of Floor Deck: 1/360 of span.
   3. Maximum Vertical Deflection of Roof Deck: 1/240 of span.

B. Roof Deck: Non-composite type, fluted steel sheet:
   1. Galvanized Steel Sheet: ASTM A653/A653M, Structural Steel (SS) Grade 33/230, with G90/Z275 galvanized coating.
   2. Minimum Base Metal Thickness: 20 gauge, 0.0359 inch (0.91 mm).
   3. Nominal Height: 1-1/2 inch (38 mm).
   4. Profile: Fluted; SDI WR.
   5. Formed Sheet Width: 36 inch (900 mm).
   6. Side Joints: Lapped, mechanically fastened.
   7. End Joints: Lapped, mechanically fastened.

2.3 ACCESSORY MATERIALS

A. Bearing Plates and Angles: ASTM A36/A36M steel, galvanized per ASTM A123/A123M.

B. Stud Shear Connectors: Made from ASTM A108 Grade 1015 bars.

C. Welding Materials: AWS D1.1/D1.1M.

D. Fasteners: Galvanized hardened steel, self tapping.

E. Powder Actuated Mechanical Fasteners: Steel; with knurled shank and forged ballistic point. Comply with applicable requirements of ICC-ES AC70.
   1. Design Requirements: Provide number and type of fasteners that comply with the applicable requirements of SDI (DM) design method for roof deck and floor deck applications and ICC-ES AC43.
   2. Material: Steel; ASTM A510/A510M.
      a. Hardness: Rockwell C 54.5, minimum.
      b. Tensile Strength: 285 kips per square inch (1965 MPa), minimum.
      c. Shear Strength: 175 kips per square inch (1205 MPa), minimum.
      d. Washers:
         1) Steel Bar Joist Framing Applications: 0.472 inch (12 mm) diameter, minimum.
         2) Exposed Roof Deck Applications: 0.591 inch (15 mm) diameter, minimum.

F. Mechanical Fasteners: Steel; hex washer head, self-drilling, self-tapping.
   1. Design Requirements for Sidelap Connections: Provide number and type of fasteners that comply with the applicable requirements of SDI (DM) design method for roof deck and floor deck applications and ICC-ES AC43.

G. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

H. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, complying with VOC limitations of authorities having jurisdiction.

I. Flute Closures: Closed cell foam rubber, 1 inch (25 mm) thick; profiled to fit tight to the deck.

2.4 FABRICATED DECK ACCESSORIES

A. Sheet Metal Deck Accessories: Metal closure strips, wet concrete stops, and cover plates, 22 gauge, 0.0299 inch (0.76 mm) thick sheet steel; of profile and size as indicated; finished same as deck.

B. Roof Sump Pans: Formed sheet steel, 14 gauge, 0.0747 inch (1.90 mm) minimum thickness, flat bottom, sloped sides, recessed 1-1/2 inches (38 mm) below roof deck surface, bearing flange 3 inches (75 mm) wide, sealed watertight.

PART 3 EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION

A. Erect metal deck in accordance with SDI Design Manual and manufacturer's instructions. Align and level.

B. On concrete and masonry surfaces provide minimum 4 inch (100 mm) bearing.

C. On steel supports provide minimum 1-1/2 inch (38 mm) bearing.

D. Fasten deck to steel support members at ends and intermediate supports at 12 inches (300 mm) on center maximum, parallel with the deck flute and at each transverse flute using methods specified.
   1. Welding: Use fusion welds through weld washers.

E. Clinch lock seam side laps.

F. At mechanically fastened male/female side laps fasten at 24 inches (600 mm) on center maximum.

G. Drive mechanical sidelap connectors completely through adjacent lapped sheets; positively engage adjacent sheets with minimum three-thread penetration.

H. Weld deck in accordance with AWS D1.3/D1.3M.

I. At deck openings from 6 inches (150 mm) to 18 inches (450 mm) in size, provide 2 by 2 by 1/4 inch (50 by 50 by 6 mm) steel angle reinforcement. Place angles perpendicular to flutes; extend minimum two flutes beyond each side of opening and fusion weld to deck at each flute.

J. At deck openings greater than 18 inches (450 mm) in size, provide steel angle reinforcement. as specified in Section 051200.

K. At openings between deck and walls, columns, and openings, provide sheet steel closures and angle flashings to close openings.

L. Close openings above walls and partitions perpendicular to deck flutes with single row of foam cell closures.

M. Position roof drain pans with flange bearing on top surface of deck. Fusion weld at each deck flute.

N. Weld stud shear connectors through steel deck to structural members below.

O. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with touch-up primer.

END OF SECTION

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SECTION 055000
METAL FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Shop fabricated steel and aluminum items:
   1. Bollards.
   2. Ledge Angles, Shelf Angles, Channels, and Plates.
   3. Loose Steel Lintels.
   4. Loose Bearing and Leveling Plates: applications where they are not specified in other Sections.

B. Fasteners.

C. Miscellaneous Framing and Supports.

D. Miscellaneous Materials.

E. Products furnished, but not installed, under this Section:
   1. Loose steel lintels.
   2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
   3. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

1.2 REFERENCE STANDARDS

A. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes 2017.

B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.

C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

E. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates 2018.

F. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength 2021.

G. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes 2021a.

H. ASTM A554 - Standard Specification for Welded Stainless Steel Mechanical Tubing 2021.

I. 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 2018a.

J. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.

K. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings 2020.

L. 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 2021a.

M. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2021a.

N. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.

O. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination 2020.

P. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification 2021.

Q. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

R. AWS D1.2/D1.2M - Structural Welding Code - Aluminum 2014, with Errata (2020).

S. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172 2019.

T. MFMA-4 - Metal Framing Standards Publication 2004.

U. NACE No. 3 - Joint Surface Preparation Standard Commercial Blast Cleaning 1994 (Reaffirmed 2006).

V. SSPC-PA 1 - Shop, Field, and Maintenance Coating of Metals 2016.

W. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 2004.

X. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic) 2019.

Y. SSPC-SP 2 - Hand Tool Cleaning 2018.

Z. SSPC-SP 3 - Power Tool Cleaning 2018.

AA. SSPC-SP 6 - Commercial Blast Cleaning 2007.

1.3 PERFORMANCE REQUIREMENTS

A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
   1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages and steel weld plates and angles for casting into concrete. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.5 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Product Data: For the following:
   1. Paint products.
   2. Grout.

C. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
   1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   2. Design data: Submit drawings and supporting calculations, signed and sealed by a qualified professional structural engineer.
      a. Include the following, as applicable:
         1) Design criteria.
         2) Engineering analysis depicting stresses and deflections.
         3) Member sizes and gauges.
         4) Details of connections.
         5) Support reactions.
         6) Bracing requirements.

D. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

E. Designer's Qualification Statement.

F. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.6 QUALITY ASSURANCE

A. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.2/D1.2M and dated no more than 12 months before start of scheduled welding work.

B. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.

1.7 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 PRODUCTS

2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.2 MATERIALS - STEEL (FERROUS METALS)

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A500/A500M Grade B cold-formed structural tubing.

C. Plates, Shapes and Bars: ASTM A283/A283M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
   1. Size of Channels: 1-5/8 by 1-5/8 inches unless otherwise indicated.

2. Material: Cold-rolled steel, ASTM A1008/A1008M, structural steel, Grade 33; 0.0528 inch minimum thickness; unfinished.

F. Stainless Steel, General: ASTM A666, Type 304.

G. Stainless Steel Tubing: ASTM A554, Type 304, 16 gauge, 0.0625 inch (1.59 mm) minimum metal thickness, 1-1/2 inch (38 mm) diameter.

H. Stainless Steel Bars, Shapes and Moldings: ASTM A276/A276M, Type 304.

I. Slotted Channel Fittings: ASTM A1011/A1011M.

J. Mechanical Fasteners: Same material as or compatible with materials being fastened; type consistent with design and specified quality level.

K. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain.

L. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

M. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

N. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.3 MATERIALS - ALUMINUM (NON-FERROUS METALS)

A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

B. Sheet Aluminum: ASTM B209/B209M, 6061 alloy, T6 temper.

C. Bolts, Nuts, and Washers: Stainless steel.

D. Welding Materials: AWS D1.2/D1.2M; type required for materials being welded.

2.4 FABRICATION

A. Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Form exposed work with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.
   4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Fabricate items with joints tightly fitted and secured.

I. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

J. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

K. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

L. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
   1. Coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
   2. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6 inch embedment and 2 inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c., unless otherwise indicated.

2.5 SHOP FABRICATED STEEL AND ALUMINUM ITEMS

A. Bollards: Schedule 40 steel pipe, concrete filled, crowned cap, as detailed; prime and paint finish.

B. Ledge Angles, Shelf Angles, Channels, and Plates Not Attached to Structural Framing: For support of metal decking, joists, and masonry; prime paint finish.

C. Loose Steel Lintels: As detailed; prime paint finish.
   1. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
   2. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span but not less than 8 inches unless otherwise indicated.
   3. Galvanize loose steel lintels located in exterior walls.

D. Loose Bearing and Leveling Plates:
   1. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.
   2. Galvanize plates.

2.6 FASTENERS

A. General: Unless otherwise indicated, provide Type 316 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade and class required.
   1. Provide stainless-steel fasteners for fastening aluminum.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A307, Grade A; with hex nuts, ASTM A563/A563M; and, where indicated, flat washers.

C. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, ASTM F593; with hex nuts, ASTM F594; and, where indicated, flat washers; Alloy Group 2.

D. Anchor Bolts: ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563/A563M; and, where indicated, flat washers.

1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.

E. Machine Screws: ASME B18.6.3.

F. Lag Screws: ASME B18.2.1.

G. Wood Screws: Flat head, ASME B18.6.1.

H. Plain Washers: Round, ASME B18.22.1.

I. Lock Washers: Helical, spring type, ASME B18.21.1.

J. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E488/E488M, conducted by a qualified independent testing agency.

K. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A47/A47M malleable iron or ASTM A27/A27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F2329.

L. Post-Installed Anchors: Chemical anchors.
1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel is Indicated: Alloy Group 2 stainless-steel bolts, ASTM F593 and nuts, ASTM F594.

2.7 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

C. Galvanize miscellaneous framing and supports where indicated.

2.8 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI (APSM) #79 and compatible with topcoat.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

E. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

F. Concrete: Comply with requirements in Section 033000 - Cast-in-Place Concrete, for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 3000 psi.

2.9 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal fabrications after assembly.

C. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.10 FINISHES - STEEL

A. Prime paint steel items.
   1. Exceptions: Do not prime surfaces in direct contact with concrete, where field welding is required, and items to be covered with sprayed fireproofing.

B. Prepare surfaces to be primed in accordance with SSPC-SP2.

C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

D. Shop prime steel and iron items not indicated to be galvanized unless they are to be embedded in concrete or masonry, coated with sprayed-on fireproofing or unless otherwise indicated.
   1. Shop prime with universal shop primer unless otherwise indicated.

E. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
   1. Exterior Items: SSPC-SP 6/NACE No. 3, for cleaning with commercial blast medium.
   2. Other Items: SSPC-SP 3, for cleaning with power tools.

F. Shop Prime Painting:
   1. Apply shop primer to comply with SSPC-PA 1, for shop painting.
   2. Coats: One coat.
   3. Stripe paint corners, crevices, bolts, welds, and sharp edges.

G. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.
   1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

H. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating. (Provide minimum 530 g/sq m galvanized coating.)

I. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

2.11 FABRICATION TOLERANCES

A. Squareness: 1/8 inch (3 mm) maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch (1.5 mm).

C. Maximum Misalignment of Adjacent Members: 1/16 inch (1.5 mm).

D. Maximum Bow: 1/8 inch (3 mm) in 48 inches (1.2 m).

E. Maximum Deviation From Plane: 1/16 inch (1.5 mm) in 48 inches (1.2 m).

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Furnish setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.3 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.
   4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
   1. Extruded Aluminum: Two coats of clear lacquer.

3.4 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Perform field welding in accordance with AWS D1.1/D1.1M.

D. Obtain approval prior to site cutting or making adjustments not scheduled.

E. After erection, prime welds, abrasions, and surfaces not shop primed , except surfaces to be in contact with concrete.

3.5 INSTALLING METAL BOLLARDS

A. Fill metal-capped bollards solidly with concrete and allow concrete to cure seven days before installing.

B. Anchor bollards in place with concrete footings. Center and align bollards in holes 3 inches above bottom of excavation. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.

C. Fill bollards solidly with concrete, mounding top surface to shed water.

3.6 INSTALLING LOOSE BEARING AND LEVELING PLATES

A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.

B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with grout.

C. Use nonshrink, nonmetallic grout in all locations unless otherwise indicated.

D. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.7 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

3.8 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1, for touching up shop-painted surfaces.
   1. Apply by brush or spray to provide a minimum 2.0 mils dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION

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SECTION 055100
METAL STAIRS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Stairs with concrete treads.

B. Structural steel stair framing and supports.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete fill in stair pans and landings; mesh reinforcement for landings.

B. Section 033000 - Cast-in-Place Concrete: Placement of metal anchors in concrete.

C. Section 055000 - METAL FABRICATIONS.

D. Section 055213 - PIPE AND TUBE RAILINGS: Metal handrails for the stairs specified in this section.

E. Section 099123 - Interior Painting: Paint finish.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

B. AISC 201 - AISC Certification Program for Structural Steel Fabricators, Standard for Steel Building Structures 2006.

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 A6/A6M - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling 2021.

E. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.

F. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.

G. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

H. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.

I. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength 2021.

J. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes 2021a.

K. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing 2021.

L. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

M. 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 2021a.

N. 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 2018a.

O. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings 2021.

P. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength 2022.

Q. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination 2020.

R. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification 2021.

S. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

T. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172 2019.

U. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

V. NAAMM AMP 510 - Metal Stairs Manual 1992.

W. NAAMM MBG 532 - Heavy Duty Metal Bar Grating Manual 2019.

X. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 2004.

Y. SSPC-SP 2 - Hand Tool Cleaning 2018.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
   1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   2. Include the design engineer's seal and signature on each sheet of shop drawings.

C. Design Data: As required by authorities having jurisdiction.

D. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

E. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is certified under AISC 201.

1.5 QUALITY ASSURANCE

A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.

B. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and dated no more than 12 months before start of scheduled welding work.

C. Fabricator Qualifications:
   1. A qualified steel fabricator that is certified by the American Institute for Steel Construction (AISC) under AISC 201.

PART 2 PRODUCTS

2.1 METAL STAIRS - GENERAL

A. Metal Stairs: Provide stairs of the design specified, complete with landing platforms, vertical and horizontal supports, railings, and guards, fabricated accurately for anchorage to each other and to building structure.

1. Regulatory Requirements: Provide stairs and railings that comply with most stringent requirements of local, state, and federal regulations; where requirements of Contract Documents exceed those of regulations, comply with Contract Documents.
2. Handrails: Comply with applicable accessibility requirements of ADA Standards.
3. Structural Design: Provide complete stair and railing assemblies that comply with the applicable local code.
4. Dimensions: As indicated on drawings.
5. Shop assemble components; disassemble into largest practical sections suitable for transport and access to site.
6. No sharp or rough areas on exposed travel surfaces and surfaces accessible to touch.
7. Separate dissimilar metals using paint or permanent tape.

B. Metal Jointing and Finish Quality Levels:
1. Architectural: All joints as inconspicuous as possible, whether welded or mechanical.
a. Welded Joints: Continuously welded and ground smooth and flush.
b. Mechanical Joints: Butted tight, flush, and hairline; concealed fastenings only.
c. Exposed Edges and Corners: Eased to small uniform radius.
d. Metal Surfaces to be Painted: Sanded or ground smooth, suitable for highest quality gloss finish.

C. Fasteners: Same material or compatible with materials being fastened; type consistent with design and specified quality level.

D. Anchors and Related Components: Same material and finish as item to be anchored, except where specifically indicated otherwise; provide all anchors and fasteners required.

2.2 METAL STAIRS WITH CONCRETE TREADS

A. Jointing and Finish Quality Level: Industrial, as defined above.

B. Risers: Closed.

C. Treads: Metal pan with field-installed concrete fill.
1. Concrete Depth: 1-1/2 inches (38 mm), minimum.
2. Tread Pan Material: Steel sheet.
3. Tread Pan Thickness: As required by design; 14 gauge, 0.075 inch (1.9 mm) minimum.
4. Concrete Reinforcement: Welded wire mesh.
5. Concrete Finish: For resilient floor covering.

D. Risers: Same material and thickness as tread pans.
1. Nosing Depth: Not more than 1-1/2 inch (38 mm) overhang.
2. Nosing Return: Flush with top of concrete fill, not more than 1/2 inch (12 mm) wide.

E. Stringers: Rolled steel channels.
1. Stringer Depth: 10 inches (250 mm).
2. End Closure: Sheet steel of same thickness as risers welded across ends.

F. Landings: Similar construction, using corrugated steel decking, supported and reinforced as required to achieve design load capacity.

G. Railings: Refer to Section 055213.

H. Finish: Shop- or factory-prime painted.

2.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design stairs

B. Structural Performance of Stairs: Metal stairs shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Uniform Load: 100 lbf/sq. ft.
2. Concentrated Load: 300 lbf applied on an area of 4 sq. in..
3. Uniform and concentrated loads need not be assumed to act concurrently.
4. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above
5. Limit deflection of treads, platforms, and framing members to [L/360] or 1/8 inch, whichever is less.

2.4 MATERIALS

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A500/A500M or ASTM A501/A501M structural tubing, round and shapes as indicated.

C. Pipe: ASTM A53/A53M Grade B Schedule 40, galvanized finish.

D. Ungalvanized Steel Sheet: Hot- or cold-rolled, except use cold-rolled where finished work will be exposed to view.
   1. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Designation CS (commercial steel).
   2. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Designation CS (commercial steel).

E. Galvanized Steel Sheet: ASTM A653/A653M, Structural Steel (SS) Grade 33/230 with G40/Z120 coating.

F. Concrete Reinforcement: Mesh type as detailed, galvanized.

2.5 ACCESSORIES

A. Steel Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, and galvanized to ASTM A153/A153M where connecting galvanized components.

B. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

C. Shop and Touch-Up Primer: SSPC-Paint 15, and comply with VOC limitations of authorities having jurisdiction.

2.6 SHOP FINISHING

A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

B. Do not prime surfaces in direct contact with concrete or where field welding is required.

C. Prime Painting: Use specified shop- and touch-up primer.
   1. Preparation of Steel: In accordance with SSPC-SP 2 Hand Tool Cleaning.
   2. Number of Coats: One.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. When field welding is required, clean and strip primed steel items to bare metal.

B. Supply items required to be cast into concrete and embedded in masonry with setting templates.

3.3 INSTALLATION

A. Install components plumb and level, accurately fitted, free from distortion or defects.

B. Provide anchors, plates, angles, hangers, and struts required for connecting stairs to structure.

C. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

D. Provide welded field joints where specifically indicated on shop drawings. Perform field welding in accordance with AWS D1.1/D1.1M.

E. Other field joints may be either welded or bolted provided the result complies with the limitations specified for jointing quality levels.

F. Obtain approval prior to site cutting or creating adjustments not scheduled.

G. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

END OF SECTION

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SECTION 055213
PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wall mounted handrails.

B. Stair railings and guardrails.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Placement of anchors in concrete.

B. Section 055100 - Metal Stairs: Attachment plates for handrails specified in this section.

C. Section 099123 - Interior Painting: Paint finish.

1.3 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

B. AISC 201 - AISC Certification Program for Structural Steel Fabricators, Standard for Steel Building Structures 2006.

C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2022.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

E. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes 2021a.

F. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings 2020.

G. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings 2021.

H. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination 2020.

I. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification 2021.

J. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

K. AWS D1.6/D1.6M - Structural Welding Code - Stainless Steel 2017, with Amendment (2021).

L. AWS C3.4M/C3.4 - Specification for Torch Brazing 2016.

M. AWS C3.5M/C3.5 - Specification for Induction Brazing 2016, with Amendment (2017).

N. AWS C3.9M/C3.9 - Specification for Resistance Brazing 2020.

O. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer 2004.

P. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic) 2019.

1.4 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

1.5 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Product Data: For the following:

1. Railing brackets.
2. Grout, anchoring cement, and paint products.

C. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
2. Include the design engineer's seal and signature on each sheet of shop drawings.

D. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated within the previous 12 months.

E. Designer's Qualification Statement.

F. Fabricator's Qualification Statement.

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of railing from single source from single manufacturer.

B. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located, or personnel under direct supervision of such an engineer.

C. Welder Qualifications:

1. Qualify procedures and personnel according to AWS D1.1/D1.1M.
2. Welding processes and welding operators qualified within previous 12 months.

D. Fabricator Qualifications:

1. A qualified steel fabricator that is certified by the American Institute for Steel Construction (AISC) under AISC 201.

2. A company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

1.8 COORDINATION AND SCHEDULING

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

PART 2 PRODUCTS

2.1 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code.

B. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 75 pounds per linear foot (1095 N/m) applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

C. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds (890 N) applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935

D. Allow for expansion and contraction of members and building movement without damage to connections or members.

E. Dimensions: See drawings for configurations and heights.

1. Top Rails and Wall Rails: 1-1/2 inches (38 mm) diameter, round.
2. Intermediate Rails: 1-1/2 inches (38 mm) diameter, round.

3. Posts: 1-1/2 inches (38 mm) diameter, round.
4. Balusters: 1/2 inch (12 mm) square solid bar.

F. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

G. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

H. Welded and Brazed Joints: Make visible joints butt tight, flush, and hairline; use methods that avoid discoloration and damage of finish; grind smooth, polish, and restore to required finish.

1. Ease exposed edges to a small uniform radius.
2. Welded Joints:
    a. Carbon Steel: Perform welding in accordance with AWS D1.1/D1.1M.
    b. Stainless Steel: Perform welding in accordance with AWS D1.6/D1.6M.
3. Brass/Bronze Brazed Joints:
    a. Perform torch brazing in accordance with AWS C3.4M/C3.4.
    b. Perform induction brazing in accordance with AWS C3.5M/C 3.5.
    c. Perform resistance brazing in accordance with AWS C3.9M/C3.9.

2.2 STEEL RAILING SYSTEM

A. Steel Tube: ASTM A500/A500M Grade B cold-formed structural tubing.

B. Steel Pipe: ASTM A53/A53M Grade B Schedule 80, black finish.

C. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.

D. Exposed Fasteners: No exposed bolts or screws.

E. Straight Splice Connectors: Steel concealed spigots.

F. Galvanizing: In accordance with requirements of ASTM A123/A123M.

1. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20 Type I - Inorganic.

G. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.3 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

C. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.

D. Welded Joints:

1. Exterior Components: Continuously seal joined pieces by intermittent welds and plastic filler. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
2. Interior Components: Continuously seal joined pieces by intermittent welds and plastic filler.
3. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

E. Weld connections that cannot be shop welded due to size limitations.

1. Weld in accordance with AWS D1.1/D1.1M.
2. Match shop welding and bolting.
3. Clean welds, bolted connections, and abraded areas.
4. Touch up shop primer and factory-applied finishes.
5. Repair galvanizing with galvanizing repair paint per ASTM A780/A780M.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply items required to be cast into concrete or embedded in masonry with setting templates, for installation as work of other sections.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

C. Install railings in compliance with ADA Standards for accessible design at applicable locations.

D. Anchor railings securely to structure.

E. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

3.4 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch (6 mm) per floor level, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch (6 mm).

C. Maximum Out-of-Position: 1/4 inch (6 mm).

END OF SECTION

SECTION 061000
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preservative treated wood materials.

B. Miscellaneous framing and sheathing.

C. Concealed wood blocking, nailers, and supports.

1.2 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Setting anchors in concrete.

B. Section 055000 - METAL FABRICATIONS: Miscellaneous steel connectors and support angles for wood framing.

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2023.

B. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing 2003 (Reapproved 2017).

C. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples 2021.

D. AWPA U1 - Use Category System: User Specification for Treated Wood 2022.

E. PS 20 - American Softwood Lumber Standard 2021.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials and application instructions.

C. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated plywood.

D. Field quality-control reports.

E. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

F. 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: Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

1.6 WARRANTY

A. See Section 017700 - Closeout Procedures, for additional warranty requirements.

B. Correct defective work within a two-year period 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 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

1. Lumber: S4S, No. 2 or Standard Grade.
2. Boards: Standard or No. 3.

2.3 ACCESSORIES

A. Fasteners and Anchors; Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture:

1. Nails, Brads, and Staples: ASTM F1667.
2. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. General Purpose Construction Adhesives: Comply with ASTM C557.

2.4 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

PART 3 EXECUTION

3.1 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:
   1. Chapter 23, "Fastening Schedule" in Building Code of New York State.

D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

F. Select material sizes to minimize waste.

G. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

H. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.3 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 framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. 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.

E. Provide the following specific nonstructural framing and blocking:

1. Cabinets and shelf supports.
2. Wall brackets.
3. Handrails.
4. Grab bars.
5. Towel and bath accessories.
6. Wall-mounted door stops.
7. Chalkboards and marker boards.
8. Wall paneling and trim.
9. Joints of rigid wall coverings that occur between studs.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

3.5 CLEANING

A. Waste Disposal: See Section 017419 - 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 064100
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Hardware.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 061000 - ROUGH CARPENTRY: Support framing, grounds, and concealed blocking.

C. Section 123600 - Countertops.

1.3 REFERENCE STANDARDS

A. AWI (QCP) - Quality Certification Program Current Edition.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards 2021, with Errata.

D. BHMA A156.9 - Cabinet Hardware 2020.

E. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

F. UL (DIR) - Online Certifications Directory Current Edition.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.

1.5 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1. Scale of Drawings: 1-1/2 inch to 1 foot (125 mm to 1 m), minimum.
2. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

3. Include certification program label.

C. Product Data: Provide data for hardware accessories.

D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches (300 mm) square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.

E. Samples: Submit actual sample items of proposed pulls, hinges, shelf standards, and locksets, demonstrating hardware design, quality, and finish.

F. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.
2. Single Source Responsibility: Provide and install this work from single fabricator.

B. Quality Certification:

1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.
2. Provide labels or certificates indicating that the installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
3. Provide designated labels on shop drawings as required by certification program.
4. Provide designated labels on installed products as required by certification program.
5. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.
6. Replace, repair, or rework all work for which certification is refused.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.8 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.1 CABINETS

A. Plastic Laminate Faced Cabinets: Custom grade.

B. Cabinets:

1. Casework Construction Type: Type A - Frameless.
2. Grained Face Layout for Cabinet and Door Fronts: Flush panel.
3. Cabinet Design Series: As indicated on drawings.
4. Adjustable Shelf Loading: 40 psf (19.5 gm/sq cm).
    a. Deflection: L/144.
5. Cabinet Style: Flush overlay.
6. Cabinet Doors and Drawer Fronts: Flush style.
7. Drawer Side Construction: Multiple-dovetailed.
8. Drawer Construction Technique: Dovetail joints.

2.2 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.3 LAMINATE MATERIALS

A. Manufacturers:

1. Arborite; ColorEdge: www.arborite.com/#sle.
2. Formica Corporation: www.formica.com/#sle.
3. Panolam Industries International, Inc: www.panolam.com/#sle.
4. Wilsonart LLC: www.wilsonart.com/#sle.
5. Substitutions: See Section 016000 - Product Requirements.

B. Thermally Fused Laminate (TFL): Melamine resin, NEMA LD 3, Type VGL laminate panels.

C. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

D. Provide specific types as indicated.

1. Horizontal Surfaces: HGS, 0.048 inch (1.22 mm) nominal thickness, through color, color as selected, finish as indicated.
2. Vertical Surfaces: VGS, 0.028 inch (0.71 mm) nominal thickness, through color, color as selected, finish as indicated.
3. Cabinet Liner: CLS, 0.020 inch (0.51 mm) nominal thickness, through color, color as selected, finish as indicated.
4. Laminate Backer: BKL, 0.020 inch (0.51 mm) nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.4 COUNTERTOPS

A. Countertops: See Section 123600.

2.5 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Plastic Edge Banding: Extruded 3 mm thick PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
1. Color: As selected by Architect from manufacturer's standard range.
2. Use at all exposed plywood edges.
3. Use at all exposed shelf edges.

C. Vinyl Countertop Edge: 3mm thick PVC anchor type tee-molding edging in width to match thickness of countertop, color as indicated, used at locations as indicated.

D. Fasteners: Size and type to suit application.

E. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.

F. Concealed Joint Fasteners: Threaded steel.

G. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

2.6 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch (25 mm) spacing adjustments.

C. Vanity Brackets: Fixed, ADA-compliant, face-of-stud mounting.
1. Products:

a. A&M Hardware, Inc; ADA Vanity Brackets: http://www.aandmhardware.com/#sle.

b. Substitutions: See Section 016000 - Product Requirements.

D. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers ("U" shaped wire pull, steel with chrome finish, 100 mm centers).

E. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

F. Cabinet Catches and Latches:

G. Drawer Slides:

1. Type: Extension types as indicated.
2. Static Load Capacity: Commercial grade.
3. Mounting: Side mounted.
4. Stops: Integral type.
5. Features: Provide self closing/stay closed type.
6. Manufacturers:

a. Accuride International, Inc; Heavy-Duty Drawer Slides: www.accuride.com/#sle.

b. Substitutions: See Section 016000 - Product Requirements.

H. Hinges: European style concealed self-closing type, steel with nickel-plated finish.

1. Manufacturers:

a. Blum, Inc; COMPACT BLUMOTION: www.blum.com/#sle.

b. Substitutions: See Section 016000 - Product Requirements.

I. Soft Close Adapter: Concealed, frame-mounted, screw-adjustable damper; steel with polished finish.

2.7 SHOP TREATMENT OF WOOD MATERIALS

A. Provide UL (DIR) listed and approved identification on fire retardant treated material.

2.8 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs. (Locate counter butt joints minimum 600 mm from sink cut-outs.)
   1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
   2. Cap exposed plastic laminate finish edges with material of same finish and pattern.

E. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches (400 mm) on center.

F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify location and sizes of utility rough-in associated with work of this section.

3.2 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

C. Use fixture attachments in concealed locations for wall mounted components.

D. Use concealed joint fasteners to align and secure adjoining cabinet units.

E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim for this purpose.

F. Secure cabinets to floor using appropriate angles and anchorages.

G. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.3 ADJUSTING

A. Adjust installed work.

B. Adjust moving or operating parts to function smoothly and correctly.

3.4 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 075419.11

POLYVINYL CHLORIDE ROOFING

PART 1 GENERAL

1.1 SUMMARY

1.2 SECTION INCLUDES:

A. Adhered PVC membrane roofing system.

B. Substrate board.

C. Vapor retarder.

D. Roof insulation.

E. Cover board.

1.3 RELATED SECTIONS:

A. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.

B. Division 07 Section “Roof Specialties” for roof edge fascia

C. Division 07 Section "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.4 DEFINITIONS

1.5 ROOFING TERMINOLOGY: SEE ASTM D 1079 AND GLOSSARY OF NRCA'S "THE NRCA ROOFING AND WATERPROOFING MANUAL" FOR DEFINITIONS OF TERMS RELATED TO ROOFING WORK IN THIS SECTION.

1.6 PERFORMANCE REQUIREMENTS

1.7 GENERAL PERFORMANCE: INSTALLED MEMBRANE ROOFING AND BASE FLASHINGS SHALL WITHSTAND SPECIFIED UPLIFT PRESSURES, THERMALLY INDUCED MOVEMENT, AND EXPOSURE TO WEATHER WITHOUT FAILURE DUE TO DEFECTIVE MANUFACTURE, FABRICATION, INSTALLATION, OR OTHER DEFECTS IN CONSTRUCTION. MEMBRANE ROOFING AND BASE FLASHINGS SHALL REMAIN WATERTIGHT.

1.8 MATERIAL COMPATIBILITY: PROVIDE ROOFING MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER UNDER CONDITIONS OF SERVICE AND APPLICATION REQUIRED, AS DEMONSTRATED BY MEMBRANE ROOFING MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.

1.9 ROOFING SYSTEM DESIGN: PROVIDE MEMBRANE ROOFING SYSTEM THAT IS IDENTICAL TO SYSTEMS THAT HAVE BEEN SUCCESSFULLY TESTED BY A QUALIFIED TESTING AND INSPECTING AGENCY TO RESIST UPLIFT PRESSURE CALCULATED ACCORDING TO ASCE/SEI 7.

A. Corner Uplift Pressure: 35 lbf/sf.

B. Perimeter Uplift Pressure: -30 lbf/sq. ft.

C. Field-of-Roof Uplift Pressure: -20 lbf/sq. ft.

D. Above design values, per Chapter 16 of the BCNYS, based on the following:

1. Basic Wind Speed: 90 mph, 3-second gust as measured 33 ft above ground.
2. Exposure Category: C.
3. Importance Factor: 1.15

1.10 FM APPROVALS LISTING: PROVIDE MEMBRANE ROOFING, BASE FLASHINGS, AND COMPONENT MATERIALS THAT COMPLY WITH REQUIREMENTS IN FM APPROVALS 4450 AND FM APPROVALS 4470 AS PART OF A MEMBRANE ROOFING SYSTEM, AND THAT ARE LISTED IN FM APPROVALS' "ROOFNAV" FOR CLASS 1 OR NONCOMBUSTIBLE CONSTRUCTION, AS APPLICABLE. IDENTIFY MATERIALS WITH FM APPROVALS' MARKINGS.

A. Fire/Windstorm Classification: Class 1A-90.

B. Hail Resistance: MH.

1.11 SUBMITTALS

1.12 PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

1.13 SHOP DRAWINGS: FOR ROOFING SYSTEM. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.

A. Base flashings and membrane terminations.

B. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

1.14 QUALIFICATION DATA: FOR QUALIFIED INSTALLER AND MANUFACTURER.

1.15 MANUFACTURER CERTIFICATE: SIGNED BY ROOFING MANUFACTURER CERTIFYING THAT MEMBRANE ROOFING SYSTEM COMPLIES WITH REQUIREMENTS SPECIFIED IN "PERFORMANCE REQUIREMENTS" ARTICLE.

A. Submit evidence of complying with performance requirements.

1.16 PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY MANUFACTURER AND WITNESSED BY A QUALIFIED TESTING AGENCY, FOR COMPONENTS OF MEMBRANE ROOFING SYSTEM.

1.17 FIELD QUALITY-CONTROL REPORTS.

1.18 MAINTENANCE DATA: FOR MEMBRANE ROOFING SYSTEM TO INCLUDE IN MAINTENANCE MANUALS.

1.19 QUALITY ASSURANCE

1.20 MANUFACTURER QUALIFICATIONS: A QUALIFIED MANUFACTURER THAT IS UL LISTED AND FM APPROVALS APPROVED FOR MEMBRANE ROOFING SYSTEM IDENTICAL TO THAT USED FOR THIS PROJECT.

A. The manufacturer must have a minimum of 20 years' experience in the manufacturing of vulcanized thermal set sheeting, and be the primary manufacturer of the EPDM membrane.

1.21 INSTALLER QUALIFICATIONS: A QUALIFIED FIRM THAT IS APPROVED, AUTHORIZED, OR LICENSED BY MEMBRANE ROOFING SYSTEM MANUFACTURER TO INSTALL MANUFACTURER'S PRODUCT AND THAT IS ELIGIBLE TO RECEIVE MANUFACTURER'S SPECIAL WARRANTY.

1.22 THE INSTALLER SHALL BE FULLY KNOWLEDGEABLE OF ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHALL MAKE THEMSELVES AWARE OF ALL JOB SITE CONDITIONS THAT WILL AFFECT THEIR WORK.

1.23 INSTALLER QUALIFICATIONS: A QUALIFIED FIRM THAT IS APPROVED, AUTHORIZED, OR LICENSED BY MEMBRANE ROOFING SYSTEM MANUFACTURER TO INSTALL MANUFACTURER'S PRODUCT AND THAT IS ELIGIBLE TO RECEIVE MANUFACTURER'S SPECIAL WARRANTY.

A. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least ten years' successful experience installing single-ply EPDM roofing systems and having installed at least one roofing application of similar or equal scope. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.

B. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and experienced superintendent on the job at all times roofing work is in progress.

C. There shall be a supervisor on the job site at all times while work is in progress.

1.24 SOURCE LIMITATIONS: OBTAIN COMPONENTS INCLUDING ROOF INSULATION FASTENERS FOR MEMBRANE ROOFING SYSTEM FROM SAME MANUFACTURER AS MEMBRANE ROOFING OR APPROVED BY MEMBRANE ROOFING MANUFACTURER.

1.25 EXTERIOR FIRE-TEST EXPOSURE: ASTM E 108, CLASS A; FOR APPLICATION AND ROOF SLOPES INDICATED, AS DETERMINED BY TESTING IDENTICAL MEMBRANE ROOFING MATERIALS BY A QUALIFIED TESTING AGENCY. MATERIALS SHALL BE IDENTIFIED WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.

1.26 FIRE-RESISTANCE RATINGS: WHERE INDICATED, PROVIDE FIRE-RESISTANCE-RATED ROOF ASSEMBLIES IDENTICAL TO THOSE OF ASSEMBLIES TESTED FOR FIRE RESISTANCE PER ASTM E 119 BY A QUALIFIED TESTING AGENCY. IDENTIFY PRODUCTS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.

1.27 DELIVERY, STORAGE, AND HANDLING

1.28 DELIVER ROOFING MATERIALS TO PROJECT SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELED WITH PRODUCT MANUFACTURER'S NAME OR PRODUCT BRAND NAME.

1.29 COMPLY WITH MOST CURRENT PRODUCT DATA SHEET REQUIREMENTS WHEN HANDLING, STORING, PROTECTING, OR INSTALLING ROOFING MATERIALS. INCLUDING BUT NOT LIMITED TO AVOIDING PHYSICAL DAMAGE, DETERIORATION BY SUNLIGHT, EXCESSIVE MOISTURE, OR OTHER POTENTIALLY DAMAGING CONDITIONS.

1.30 STORE LIQUID MATERIALS IN THEIR ORIGINAL UNDAMAGED CONTAINERS IN A CLEAN, DRY, PROTECTED LOCATION; AWAY FROM DIRECT SUNLIGHT; WITHIN THE TEMPERATURE RANGE NOTED ON THE PRODUCT DATA SHEET.

1.31 HANDLE AND STORE ROOFING MATERIALS AND EQUIPMENT IN A MANNER TO AVOID PERMANENT DEFLECTION OF DECK.

1.32 PROJECT CONDITIONS

1.33 WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT ROOFING SYSTEM TO BE INSTALLED ACCORDING TO MANUFACTURER'S MOST CURRENT REQUIREMENTS AND WARRANTY REQUIREMENTS.

1.34 MATERIAL COMPATIBILITY: ROOFING MATERIALS SHALL BE COMPATIBLE WITH ONE ANOTHER AND ADJACENT MATERIALS UNDER CONDITIONS OF SERVICE AND APPLICATION REQUIRED AND CONFIRMED BY ROOFING MANUFACTURER.

1.35 DO NOT DISRUPT ACTIVITIES IN OCCUPIED SPACES.

1.36 WARRANTY

1.37 MAINTAIN EXISTING ROOFING MANUFACTURER'S WARRANTY.

PART 2 PRODUCTS

2.1 PVC MEMBRANE ROOFING

2.2 MANUFACTURERS: EXISTING ROOF MEMBRANE MANUFACTURER IS SIKA CORP. PROVIDE MATERIALS TO COMPLY WITH MANUFACTURER'S SYSTEM.

2.3 PVC SHEET: ASTM D 4434/D 4434M, TYPE II, GLASS-FIBER REINFORCED, FELT BACKED

A. Thermoplastic membrane, fiberglass scrim reinforcement, with lacquer coating and factory applied 9 oz. felt backing

B. Thickness: 60 mil (1.5 mm)

C. Exposed Face Color: White; initial solar reflectance of 0.83, emittance of 0.90, and solar reflective index (SRI) of 104.

2.4 AUXILIARY MEMBRANE ROOFING MATERIALS

2.5 LIQUID-TYPE AUXILIARY MATERIALS SHALL COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION.

2.6 ADHESIVES AND SEALANTS SHALL COMPLY WITH THE FOLLOWING LIMITS FOR VOC CONTENT:

A. Plastic Foam Adhesives: 50 g/L.

B. Gypsum Board and Panel Adhesives: 50 g/L.

C. Multipurpose Construction Adhesives: 70 g/L.

D. Fiberglass Adhesives: 80 g/L.

E. Contact Adhesives: 80 g/L.

F. PVC Welding Compounds: 510 g/L.

G. Other Adhesives: 250 g/L.

H. Single-Ply Roof Membrane Sealants: 450 g/L.

I. Nonmembrane Roof Sealants: 300 g/L.

J. Sealant Primers for Nonporous Substrates: 250 g/L.

K. Sealant Primers for Porous Substrates: 775 g/L.

2.7 ADHESIVES AND SEALANTS SHALL COMPLY WITH THE TESTING AND PRODUCT REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS."

2.8 SHEET FLASHING: MANUFACTURER'S STANDARD SHEET FLASHING OF SAME MATERIAL, TYPE, REINFORCEMENT, THICKNESS, AND COLOR AS PVC SHEET.

2.9 BONDING ADHESIVE: MANUFACTURER'S STANDARD, LOW-VOC.

2.10 SLIP SHEET: MANUFACTURER'S STANDARD, OF THICKNESS REQUIRED FOR APPLICATION.

2.11 METAL TERMINATION BARS: MANUFACTURER'S STANDARD, PREDRILLED STAINLESS-STEEL OR ALUMINUM BARS, APPROXIMATELY 1 BY 1/8 INCH (25 BY 3 MM) THICK; WITH ANCHORS.

2.12 METAL BATTENS: MANUFACTURER'S STANDARD, ALUMINUM-ZINC-ALLOY-COATED OR ZINC-COATED STEEL SHEET, APPROXIMATELY 1 INCH WIDE BY 0.05 INCH (25 MM WIDE BY 1.3 MM) THICK, PREPUNCHED.

2.13 FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES COMPLYING WITH CORROSION-RESISTANCE PROVISIONS IN FM GLOBAL 4470, DESIGNED FOR FASTENING ROOFING TO SUBSTRATE, AND ACCEPTABLE TO ROOFING SYSTEM MANUFACTURER.

2.14 MISCELLANEOUS ACCESSORIES: PROVIDE POURABLE SEALERS, PREFORMED CONE AND VENT SHEET FLASHINGS, PREFORMED INSIDE AND OUTSIDE CORNER SHEET FLASHINGS, T-JOINT COVERS, LAP SEALANTS, TERMINATION REGLETS, AND OTHER ACCESSORIES.

2.15 VAPOR RETARDER

2.16 SELF-ADHERING-SHEET VAPOR RETARDER: ASTM D 1970, POLYETHYLENE FILM LAMINATED TO LAYER OF RUBBERIZED ASPHALT ADHESIVE, MINIMUM 40-MIL-TOTAL THICKNESS; MAXIMUM PERMEANCE RATING OF 0.1 PERM; COLD APPLIED, WITH SLIP-RESISTING SURFACE AND RELEASE PAPER BACKING. PROVIDE PRIMER WHEN RECOMMENDED BY VAPOR-RETARDER MANUFACTURER.

2.17 ROOF INSULATION

2.18 GENERAL: PREFORMED ROOF INSULATION BOARDS MANUFACTURED OR APPROVED BY EPDM MEMBRANE ROOFING MANUFACTURER, SELECTED FROM MANUFACTURER'S STANDARD SIZES SUITABLE FOR APPLICATION, OF THICKNESSES INDICATED.

2.19 POLYISOCYANURATE BOARD INSULATION: ASTM C 1289, TYPE II, CLASS 1, GRADE 2, FELT OR GLASS-FIBER MAT FACER ON BOTH MAJOR SURFACES.

A. Use Type II, Class I, Grade 3 where indicated for higher compressive strength.

2.20 TAPERED INSULATION: PROVIDE FACTORY-TAPERED INSULATION BOARDS FABRICATED TO SLOPE OF 1/4 INCH PER 12 INCHES UNLESS OTHERWISE INDICATED.

A. Provide minimum slope of 1/8 inch per 12 inches at reroofed areas.

2.21 PROVIDE PREFORMED SADDLES, CRICKETS, TAPERED EDGE STRIPS, AND OTHER INSULATION SHAPES WHERE INDICATED FOR SLOPING TO DRAIN. FABRICATE TO SLOPES INDICATED.

2.22 INSULATION TRANSITIONS/STEP OFFS GREATER THAN ½" WILL REQUIRE A TRANSITION BOARD SUCH AS A WOOD FIBERBOARD TAPERED EDGE STRIP. TAPERED INSULATION OR CRICKETS SHALL BE OVERLAID WITH 1/2"

2.23 INSULATION ACCESSORIES

2.24 GENERAL: FURNISH ROOF INSULATION ACCESSORIES RECOMMENDED BY INSULATION MANUFACTURER FOR INTENDED USE AND COMPATIBILITY WITH MEMBRANE ROOFING.

2.25 FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES COMPLYING WITH CORROSION-RESISTANCE PROVISIONS IN FM APPROVALS 4470, DESIGNED FOR FASTENING ROOF INSULATION AND COVER BOARDS TO SUBSTRATE, AND ACCEPTABLE TO ROOFING SYSTEM MANUFACTURER.

2.26 BONDING ADHESIVE: MANUFACTURER'S STANDARD.

2.27 COVER BOARD: ASTM C 1278/C 1278M, FIBER-REINFORCED GYPSUM BOARD.

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. USG Corporation.
      a. Securock Gypsum Fiber Roof Board

B. Thickness: 3/8 inch.

C. Surface Finish: Unprimed.

PART 3 EXECUTION

3.1 EXAMINATION

3.2 EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK:

A. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.

B. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

3.3 PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.4 PREPARATION

3.5 CLEAN SUBSTRATE OF DUST, DEBRIS, MOISTURE, AND OTHER SUBSTANCES DETRIMENTAL TO ROOFING INSTALLATION ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. REMOVE SHARP PROJECTIONS.

3.6 PREVENT MATERIALS FROM ENTERING AND CLOGGING ROOF DRAINS AND CONDUCTORS AND FROM SPILLING OR MIGRATING ONTO SURFACES OF OTHER CONSTRUCTION. REMOVE ROOF-DRAIN PLUGS WHEN NO WORK IS TAKING PLACE OR WHEN RAIN IS FORECAST.

3.7 INSTALL INSULATION STRIPS ACCORDING TO ACOUSTICAL ROOF DECK MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.8 ROOFING INSTALLATION, GENERAL

3.9 INSTALL ROOFING SYSTEM ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.10 COMPLETE TERMINATIONS AND BASE FLASHINGS AND PROVIDE TEMPORARY SEALS TO PREVENT WATER FROM ENTERING COMPLETED SECTIONS OF ROOFING SYSTEM AT END OF WORKDAY OR WHEN RAIN IS FORECAST. REMOVE AND DISCARD TEMPORARY SEALS BEFORE BEGINNING WORK ON ADJOINING ROOFING.

3.11 INSTALL ROOFING AND AUXILIARY MATERIALS TO TIE IN TO EXISTING ROOFING TO MAINTAIN WEATHERTIGHTNESS OF TRANSITION AND TO NOT VOID WARRANTY FOR EXISTING ROOFING SYSTEM.

3.12 VAPOR-RETARDER INSTALLATION

3.13 SELF-ADHERING-SHEET VAPOR RETARDER: PRIME SUBSTRATE IF REQUIRED BY MANUFACTURER. INSTALL SELF-ADHERING-SHEET VAPOR RETARDER OVER AREA TO RECEIVE VAPOR RETARDER, SIDE AND END LAPPING EACH SHEET A MINIMUM OF 3-1/2 AND 6 INCHES (90 AND 150 MM), RESPECTIVELY.

A. Extend vertically up parapet walls and projections to a minimum height equal to height of insulation and cover board.

B. Seal laps by rolling.

3.14 COMPLETE TERMINATIONS AND BASE FLASHINGS AND PROVIDE TEMPORARY SEALS TO PREVENT WATER FROM ENTERING COMPLETED SECTIONS OF ROOFING SYSTEM AT THE END OF THE WORKDAY OR WHEN RAIN IS FORECAST. REMOVE AND DISCARD TEMPORARY SEALS BEFORE BEGINNING WORK ON ADJOINING ROOFING.

3.15 COMPLETELY SEAL VAPOR RETARDER AT TERMINATIONS, OBSTRUCTIONS, AND PENETRATIONS TO PREVENT AIR MOVEMENT INTO MEMBRANE ROOFING SYSTEM.

3.16 INSULATION INSTALLATION

3.17 COORDINATE INSTALLING MEMBRANE ROOFING SYSTEM COMPONENTS SO INSULATION IS NOT EXPOSED TO PRECIPITATION OR LEFT EXPOSED AT THE END OF THE WORKDAY.

3.18 COMPLY WITH MEMBRANE ROOFING SYSTEM AND INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING ROOF INSULATION.

3.19 INSTALL TAPERED INSULATION UNDER AREA OF ROOFING TO CONFORM TO SLOPES INDICATED.

3.20 MINIMUM AVERAGE THICKNESS: AS REQUIRED TO OBTAIN AN AVERAGE THERMAL RESISTANCE OF R-20.

A. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

3.21 TRIM SURFACE OF INSULATION WHERE NECESSARY AT ROOF DRAINS SO COMPLETED SURFACE IS FLUSH AND DOES NOT RESTRICT FLOW OF WATER.

3.22 INSTALL INSULATION WITH LONG JOINTS OF INSULATION IN A CONTINUOUS STRAIGHT LINE WITH END JOINTS STAGGERED BETWEEN ROWS, ABUTTING EDGES AND ENDS BETWEEN BOARDS. FILL GAPS EXCEEDING 1/4 INCH WITH INSULATION.

A. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

3.23 INSTALLATION OVER GYPSUM DECKS:

A. Install base layer of insulation with joints staggered not less than 24 inches in adjacent rows.
   1. Make joints between adjacent insulation boards not more than 1/4 inch in width.

2. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches.
    a. Trim insulation so that water flow is unrestricted.
3. Fill gaps exceeding 1/4 inch with insulation.
4. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
5. Adhere base layer of insulation to vapor retarder according to FM Approvals' RoofNav assembly requirements and FM Global Property Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification, as follows:
    a. Set insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

B. Install upper layers of insulation and tapered insulation with joints of each layer offset not less than 12 inches from previous layer of insulation.
1. Staggered end joints within each layer not less than 24 inches in adjacent rows.
2. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows.
3. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
4. Make joints between adjacent insulation boards not more than 1/4 inch in width.
5. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches.
    a. Trim insulation so that water flow is unrestricted.
6. Fill gaps exceeding 1/4 inch with insulation.
7. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
8. Adhere each layer of insulation to substrate using adhesive according to FM Approvals' RoofNav assembly requirements and FM Global Property Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification, as follows:
    a. Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.24 INSTALLATION OF COVER BOARDS

3.25 INSTALL COVER BOARDS OVER INSULATION WITH LONG JOINTS IN CONTINUOUS STRAIGHT LINES WITH END JOINTS STAGGERED BETWEEN ROWS. OFFSET JOINTS OF INSULATION BELOW A MINIMUM OF 6 INCHES IN EACH DIRECTION.

A. Trim cover board neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.

B. At internal roof drains, conform to slope of drain sump.

1. Trim cover board so that water flow is unrestricted.

C. Cut and fit cover board tight to nailers, projections, and penetrations.

D. Adhere cover board to substrate using adhesive according to FM Approvals' RoofNav assembly requirements and FM Global Property Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification, as follows:

1. Set cover board in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

E. Walk the boards into the adhesive and roll using a 30” wide, 150 pound weighted steel roller to ensure full embedment. Constant weight may be required to achieve adequate adhesion.

3.26 ADHERED MEMBRANE ROOFING INSTALLATION

3.27 ADHERE ROOFING OVER AREA TO RECEIVE ROOFING ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. UNROLL ROOFING AND ALLOW TO RELAX BEFORE RETAINING.

1. Install sheet according to ASTM D 5036.

3.28 START INSTALLATION OF ROOFING IN PRESENCE OF ROOFING SYSTEM MANUFACTURER'S TECHNICAL PERSONNEL.

3.29 ACCURATELY ALIGN ROOFING AND MAINTAIN UNIFORM SIDE AND END LAPS OF MINIMUM DIMENSIONS REQUIRED BY MANUFACTURER. STAGGER END LAPS.

3.30 BONDING ADHESIVE: APPLY TO SUBSTRATE AND UNDERSIDE OF ROOFING AT RATE REQUIRED BY MANUFACTURER AND ALLOW TO PARTIALLY DRY BEFORE INSTALLING ROOFING. DO NOT APPLY TO SPLICE AREA OF ROOFING.

3.31 IN ADDITION TO ADHERING, MECHANICALLY FASTEN ROOFING SECURELY AT TERMINATIONS, PENETRATIONS, AND PERIMETER OF ROOFING.

3.32 APPLY ROOFING WITH SIDE LAPS SHINGLED WITH SLOPE OF ROOF DECK WHERE POSSIBLE.

3.33 SEAMS: CLEAN SEAM AREAS, OVERLAP ROOFING, AND HOT-AIR WELD SIDE AND END LAPS OF ROOFING AND SHEET FLASHINGS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, TO ENSURE A WATERTIGHT SEAM INSTALLATION.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
3. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

3.34 SPREAD SEALANT BED OVER DECK-DRAIN FLANGE AT ROOF DRAINS, AND SECURELY SEAL ROOFING IN PLACE WITH CLAMPING RING.

3.35 BASE FLASHING INSTALLATION

3.36 INSTALL SHEET FLASHINGS AND PREFORMED FLASHING ACCESSORIES AND ADHERE TO SUBSTRATES ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.37 APPLY BONDING ADHESIVE TO SUBSTRATE AND UNDERSIDE OF SHEET FLASHING AT REQUIRED RATE AND ALLOW TO PARTIALLY DRY. DO NOT APPLY TO SEAM AREA OF FLASHING.

3.38 FLASH PENETRATIONS AND FIELD-FORMED INSIDE AND OUTSIDE CORNERS WITH CURED OR UNCURED SHEET FLASHING.

3.39 CLEAN SEAM AREAS, OVERLAP, AND FIRMLY ROLL SHEET FLASHINGS INTO THE ADHESIVE. HOT-AIR WELD SIDE AND END LAPS TO ENSURE A WATERTIGHT SEAM INSTALLATION.

3.40 TERMINATE AND SEAL TOP OF SHEET FLASHINGS AND MECHANICALLY ANCHOR TO SUBSTRATE THROUGH TERMINATION BARS.

3.41 DAILY SEAL

3.42 NEW ROOFING SHALL BE COMPLETE AND WEATHER TIGHT AT THE END OF THE WORKDAY. CARE MUST BE TAKEN TO AVOID WICKING WATER THOUGH THE FLEECE BY PROPERLY SEALING EXPOSED EDGES OF THE MEMBRANE

3.43 ON PHASED ROOFING, WHEN THE COMPLETION OF FLASHINGS AND TERMINATIONS IS NOT ACHIEVED BY THE END OF THE WORK DAY, A DAILY SEAL MUST BE PERFORMED TO TEMPORARILY CLOSE THE MEMBRANE TO PREVENT WATER INFILTRATION. USE POURABLE SEALER OR OTHER ACCEPTABLE MEMBRANE SEAL IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.

3.44 FIELD QUALITY CONTROL

3.45 FINAL ROOF INSPECTION: ARRANGE FOR ROOFING SYSTEM MANUFACTURER'S TECHNICAL PERSONNEL TO INSPECT ROOFING INSTALLATION ON COMPLETION.

3.46 REPAIR OR REMOVE AND REPLACE COMPONENTS OF ROOFING SYSTEM WHERE INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.

3.47 ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE IF REPLACED OR ADDITIONAL WORK COMPLIES WITH SPECIFIED REQUIREMENTS.

3.48 PROTECTING AND CLEANING

3.49 PROTECT ROOFING SYSTEM FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD. WHEN REMAINING CONSTRUCTION DOES NOT AFFECT OR ENDANGER ROOFING, INSPECT ROOFING FOR DETERIORATION AND DAMAGE, DESCRIBING ITS NATURE AND EXTENT IN A WRITTEN REPORT, WITH COPIES TO ARCHITECT AND OWNER.

3.50 CORRECT DEFICIENCIES IN OR REMOVE ROOFING SYSTEM THAT DOES NOT COMPLY WITH REQUIREMENTS, REPAIR SUBSTRATES, AND REPAIR OR REINSTALL ROOFING SYSTEM TO A CONDITION FREE OF DAMAGE AND DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION AND ACCORDING TO WARRANTY REQUIREMENTS.

3.51 CLEAN OVERSPRAY AND SPILLAGE FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

END OF SECTION

SECTION 076200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Manufactured Products:
      a. Manufactured reglets.
   2. Formed Products:
      a. Formed roof drainage sheet metal fabrications.
      b. Formed low-slope roof sheet metal fabrications.
      c. Formed wall sheet metal fabrications.
      d. Formed equipment support flashing.
      e. Formed overhead-piping safety pans.

B. Related Sections:
   1. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
   2. Division 07 Section "Roof Specialties" for manufactured roof specialties not part of sheet metal flashing and trim.
   3. Division 07 Section "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.

C. Custom Fabrication of fascia metal in lieu of providing manufactured metal specified in section 077100 will not be accepted.

1.2 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies as indicated shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. SPRI Wind Design Standard: Manufacture and install copings and roof-edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressures:
   1. Design Pressure: As indicated on Drawings.

C. Metal Edge Securement: Install in accordance with ANSI/SPRI ES-1, “American National Standard for Edge Systems Used with Low-Slope Roofing Systems.”

D. Thermal Movements: Provide sheet metal flashing and trim that allows for thermal movements from ambient and surface temperature changes.
   1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: Show fabrication and installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work. Include the following:
   1. Identification of material, thickness, weight, and finish for each item and location in Project.
   2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
   3. Details for joining, supporting, and securing sheet metal flashing and trim, including layout of fasteners, cleats, clips, and other attachments. Include pattern of seams.
   4. Details of termination points and assemblies, including fixed points.

5. Details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction.
6. Details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashings as applicable.
7. Details of special conditions.
8. Details of connections to adjoining work.

C. Samples for Initial Selection: For each type of sheet metal flashing, trim, and accessory indicated with factory-applied color finishes involving color selection.

D. Qualification Data: For qualified fabricator.

E. Maintenance Data: For sheet metal flashing, trim, and accessories to include in maintenance manuals.

F. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

B. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
1. Build mockup of typical roof eave, including gutter, fascia, fascia trim, and apron flashing, approximately 10 feet long, including supporting construction cleats, seams, attachments, underlayment, and accessories.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

D. Preinstallation Conference: Conduct conference at Project site.
1. Meet with Owner, Architect, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, unit skylights, and roof-mounted equipment.
2. Review methods and procedures related to sheet metal flashing and trim.
3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
4. Review special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect sheet metal flashing.
5. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation.

1.6 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
   2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.
   1. As-Milled Finish: Mill finish.
   2. Surface: Smooth, flat.
   3. Clear Anodic Finish, Coil Coated: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
   4. Exposed Coil-Coated Finishes:
      a. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
   5. Color: As selected by Architect from manufacturer's full range.
   6. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

C. Stainless-Steel Sheet: ASTM A 240 or ASTM A 666, Type 304, dead soft, fully annealed.
   1. Finish: 2D (dull, cold rolled).
   2. Surface: Smooth, flat.

2.2 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.

B. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
   1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F.
   2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F.
   3. Products: Subject to compliance with requirements, provide one of the following:
      a. Carlisle Coatings & Waterproofing Inc.; CCW WIP 300HT.
      b. Grace Construction Products, a unit of W. R. Grace & Co.; Ultra.
      c. Henry Company; Blueskin PE200 HT.
      d. Metal-Fab Manufacturing, LLC; MetShield.
      e. Owens Corning; WeatherLock Metal High Temperature Underlayment.

C. Slip Sheet: Building paper, 3-lb/100 sq. ft. minimum, rosin sized.

2.3 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
   1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
      a. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
      b. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
   2. Fasteners for Zinc-Tin Alloy-Coated Copper Sheet: Copper, hardware bronze or Series 300 stainless steel.
   3. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
   4. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.

C. Solder:
   1. For Stainless Steel: ASTM B 32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.
   2. For Zinc-Tin Alloy-Coated Copper: ASTM B 32, 100 percent tin.

D. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.

E. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

G. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.4 MANUFACTURED SHEET METAL FLASHING AND TRIM

A. Reglets: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Cheney Flashing Company.
      b. Fry Reglet Corporation.
      c. Heckmann Building Products Inc.
      d. Hickman, W. P. Company.
      e. Hohmann & Barnard, Inc.; STF Sawtooth Flashing.
      f. Keystone Flashing Company, Inc.
   2. Material: Aluminum, 0.024 inch thick.
   3. Surface-Mounted Type: Provide with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.
   4. Stucco Type: Provide with upturned fastening flange and extension leg of length to match thickness of applied finish materials.

5. Concrete Type: Provide temporary closure tape to keep reglet free of concrete materials, special fasteners for attaching reglet to concrete forms, and guides to ensure alignment of reglet section ends.
6. Masonry Type: Provide with offset top flange for embedment in masonry mortar joint.
7. Accessories:
   a. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where Drawings show reglet without metal counterflashing.
   b. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.
8. Finish: Mill.

2.5 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
   1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
   2. Obtain field measurements for accurate fit before shop fabrication.
   3. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
   4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

E. Fabricate cleats and attachment devices of sizes as recommended by SMACNA's "Architectural Sheet Metal Manual" [and by FMG Loss Prevention Data Sheet 1-49] for application, but not less than thickness of metal being secured.

F. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

G. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. [Rivet joints where necessary for strength.]

H. Do not use graphite pencils to mark metal surfaces.

2.6 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters: Fabricate to cross section indicated, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch- long sections. Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, and gutter accessories from same metal as gutters.
   1. Gutter Style: SMACNA designation J.
   2. Expansion Joints: Butt type.
   3. Accessories: Continuous removable leaf screen with sheet metal frame and hardware cloth screen and Wire ball downspout strainer.

4. Gutters with Girth up to 15 Inches: Fabricate from the following materials:
   a. Aluminum: 0.032 inch thick.
   b. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   c. Stainless Steel: 0.016 inch thick.
   d. Zinc-Tin Alloy-Coated Copper: 16 oz./sq. ft..
5. Gutters with Girth 16 to 20 Inches: Fabricate from the following materials:
   a. Aluminum: 0.040 inch thick.
   b. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   c. Stainless Steel: 0.019 inch thick.
   d. Zinc-Tin Alloy-Coated Copper: 16 oz./sq. ft..
6. Gutters with Girth 21 to 25 Inches: Fabricate from the following materials:
   a. Aluminum: 0.050 inch thick.
   b. Aluminum-Zinc Alloy-Coated Steel: 0.024 inch thick.
   c. Stainless Steel: 0.025 inch thick.
   d. Zinc-Tin Alloy-Coated Copper: 20 oz./sq. ft..

B. Built-in Gutters: Fabricate to cross section indicated, with riveted and soldered joints, complete with end pieces, outlet tubes, and other special accessories as required. Fabricate in minimum 96-inch- long sections. Fabricate expansion joints and accessories from same metal as gutters unless otherwise indicated.
   1. Fabricate gutters with built-in expansion joints.
   2. Accessories: Continuous removable leaf screen with sheet metal frame and hardware cloth screen and Wire ball downspout strainer.
   3. Fabricate from the following materials:
      a. Stainless Steel: 0.016 inch thick.
      b. Zinc-Tin Alloy-Coated Copper: 16 oz./sq. ft..

C. Downspouts: Fabricate rectangular downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.
   1. Fabricated Hanger Style: SMACNA figure designation 1-35A, 1-35B, 1-35C, 1-35D, 1-35E, 1-35F, 1-35G, 1-35H, 1-35I, and 1-35J.
   2. Manufactured Hanger Style: SMACNA figure designation 1-34A, 1-34B, 1-34C, 1-34D, and 1-34E.
   3. Fabricate from the following materials:
      a. Aluminum: 0.024 inch thick.
      b. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
      c. Stainless Steel: 0.016 inch thick.
      d. Zinc-Tin Alloy-Coated Copper: 16 oz./sq. ft..

D. Parapet Scuppers: Fabricate scuppers of dimensions required with closure flange trim to exterior, 4-inch- wide wall flanges to interior, and base extending 4 inches beyond cant or tapered strip into field of roof. Fabricate from the following materials:
   1. Aluminum: 0.032 inch thick.
   2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   3. Stainless Steel: 0.019 inch thick.
   4. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

E. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape indicated complete with outlet tubes, exterior flange trim, and built-in overflows. Fabricate from the following materials:
   1. Aluminum: 0.032 inch thick.
   2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   3. Stainless Steel: 0.016 inch thick.

4. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

A. Roof-Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch- long, but not exceeding 10-foot- long, sections. Furnish with 6-inch- wide, joint cover plates.
   1. Joint Style: Butt, with 12-inch- wide, concealed backup plate.
   2. Fabricate with scuppers spaced 10 feet apart, of dimensions required with 4-inch- wide flanges and base extending 4 inches beyond cant or tapered strip into field of roof. Fasten gravel guard angles to base of scupper.
   3. Fabricate from the following materials:
      a. Aluminum: 0.050 inch thick.
      b. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
      c. Stainless Steel: 0.019 inch thick.
      d. Zinc-Tin Alloy-Coated Copper: 20 oz. /sq. ft.

B. Copings: Fabricate in minimum 96-inch- long, but not exceeding 10-foot- long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight.
   1. Coping Profile: SMACNA figure designation 3-4A.
   2. Joint Style: Butt, with 12-inch- wide, concealed backup plate.
   3. Fabricate from the following materials:
      a. Aluminum: 0.050 inch thick.
      b. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
      c. Stainless Steel: 0.025 inch thick.
      d. Zinc-Tin Alloy-Coated Copper: 24 oz. /sq. ft.

C. Roof, Roof to Wall Transition, Roof to Roof Edge Flashing (gravel Stop), Roof to Roof Edge Flashing (Gravel stop), Fascia Cap Transition, and Expansion Joint Cover: Fabricate from the following materials:
   1. Aluminum: 0.050 inch thick.
   2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   3. Stainless Steel: 0.025 inch thick.
   4. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

D. Base Flashing: Fabricate from the following materials:
   1. Aluminum: 0.040 inch thick.
   2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   3. Stainless Steel: 0.019 inch thick.
   4. Zinc-Tin Alloy-Coated Copper: 20 oz. /sq. ft.

E. Counterflashing: Fabricate from the following materials:
   1. Aluminum: 0.032 inch thick.
   2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   3. Stainless Steel: 0.019 inch thick.
   4. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

F. Flashing Receivers: Fabricate from the following materials:
   1. Aluminum: 0.032 inch thick.
   2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
   3. Stainless Steel: 0.016 inch thick.
   4. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

G. Roof-Penetration Flashing: Fabricate from the following materials:
   1. Stainless Steel: 0.019 inch thick.

2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
3. Zinc-Tin Alloy-Coated Stainless Steel: 0.018 inch thick.

H. Roof-Drain Flashing: Fabricate from the following materials:
1. Stainless Steel: 0.016 inch thick.

2.8 WALL SHEET METAL FABRICATIONS

A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch- long, but not exceeding 12-foot- long sections under copings, at shelf angles, and where indicated. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings. Form with 2-inch- high, end dams where flashing is discontinuous. Fabricate from the following materials:
1. Stainless Steel: 0.016 inch thick.
2. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

B. Opening Flashings in Wood or Cold-Formed Frame Construction: Fabricate head, sill,[jamb,] and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch-high, end dams. Fabricate from the following materials:
1. Aluminum: 0.032 inch thick.
2. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
3. Stainless Steel: 0.016 inch thick.
4. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

2.9 MISCELLANEOUS SHEET METAL FABRICATIONS

A. Equipment Support Flashing: Fabricate from the following materials:
1. Stainless Steel: 0.019 inch thick.
2. Zinc-Tin Alloy-Coated Copper: 16 oz. /sq. ft.

B. Overhead-Piping Safety Pans: Fabricate from the following materials:
1. Galvanized Steel: 0.040 inch thick.
2. Aluminum-Zinc Alloy-Coated Steel: 0.040 inch thick.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of the Work.
1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Felt Underlayment: Install felt underlayment with adhesive for temporary anchorage to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

B. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Apply primer if required by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

3.3 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
   1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
   2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
   3. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
   4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
   5. Install sealant tape where indicated.
   6. Torch cutting of sheet metal flashing and trim is not permitted.
   7. Do not use graphite pencils to mark aluminum surfaces.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.
   1. Coat back side of uncoated aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
   2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection.

D. Fastener Sizes: Use fasteners of sizes as follows:
   1. Penetrate wood sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws
   2. Penetrate metal decking not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

E. Seal joints as shown and as required for watertight construction.
   1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
   2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

F. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, except reduce pre-tinning where pre-tinned surface would show in completed Work.
   1. Do not solder metallic-coated steel and aluminum sheet.
   2. Pre-tinning is not required for zinc-tin alloy-coated copper.
   3. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

4. Stainless-Steel Soldering: Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

G. Rivets: Rivet joints in uncoated aluminum where indicated and where necessary for strength.

3.4 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

B. Hanging Gutters: Join sections with riveted and soldered joints or with butt joints and concealed backplates sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored gutter brackets spaced not more than 36 inches apart. Provide end closures and seal watertight with sealant. Slope to downspouts.
1. Fasten gutter spacers to front and back of gutter.
2. Loosely lock straps to front gutter bead and anchor to roof deck.
3. Anchor and loosely lock back edge of gutter to continuous cleat and eave or apron flashing.
4. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 24 inches apart.
5. Anchor gutter with spikes and ferrules spaced not more than 24 inches apart.
6. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet apart.
7. Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.

C. Built-in Gutters: Join sections with riveted and soldered or lapped joints sealed with sealant. Provide for thermal expansion. Slope to downspouts. Provide end closures and seal watertight with sealant.
1. Install felt underlayment layer in built-in gutter trough and extend to drip edge at eaves and under felt underlayment on roof sheathing. Lap sides a minimum of 2 inches over underlying course. Lap ends a minimum of 4 inches. Stagger end laps between succeeding courses at least 72 inches. Fasten with roofing nails. Install slip sheet over felt underlayment.
2. Anchor and loosely lock back edge of gutter to continuous cleat and eave or apron flashing.
3. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 24 inches apart.
4. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet apart. Install expansion-joint caps.

D. Downspouts: Join sections with 1-1/2-inch telescoping joints.
1. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c. in between.
2. Connect downspouts to underground drainage system indicated.
   a. Provide elbows at base of downspout to direct water away from building where underground drainage system is not indicated.

E. Parapet Scuppers: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.
1. Anchor scupper closure trim flange to exterior wall and Solder to scupper.
2. Loosely lock front edge of scupper with conductor head.
3. Solder exterior wall scupper flanges into back of conductor head.

F. Conductor Heads: Anchor securely to wall with elevation of conductor head rim 1 inch below scupper or gutter discharge.

G. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints a minimum of 4 inches in direction of water flow.

3.5 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in SMACNA's "Architectural Sheet Metal Manual" and as indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch centers.

C. Copings: Anchor to resist uplift and outward forces according to recommendations in SMACNA's "Architectural Sheet Metal Manual" and as indicated.
   1. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 16-inch centers.
   2. Anchor interior leg of coping with washers and screw fasteners through slotted holes at 20-inch centers.

D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.
   1. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches and bed with sealant. Secure in a waterproof manner by means of snap-in installation and sealant or lead wedges and sealant.

E. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

3.6 WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

B. Reglets: Installation of reglets is specified in Division 03 Section "Cast-in-Place Concrete".

C. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.

3.7 MISCELLANEOUS FLASHING INSTALLATION

A. Overhead-Piping Safety Pans: Suspend pans independent from structure above as indicated on Drawings. Pipe and install drain line to plumbing waste or drainage system.

B. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.8 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.9 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of installation, remove unused materials and clean finished surfaces. Maintain in a clean condition during construction.

E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 077100
ROOF SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured roof specialties, including copings, fascias, and vent pipe penetrations.

1.2 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) 2021, with Errata (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) 2020, with Errata (2022).

C. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems 2017.

D. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).

E. NRCA (RM) - The NRCA Roofing Manual 2023.

1.3 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on shape of components, materials and finishes, anchor types and locations.

C. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

D. Samples: Submit two appropriately sized samples showing full range of coping colors for selections.

E. Manufacturer's Installation Instructions: Indicate special procedures, fasteners, supporting members, and perimeter conditions requiring special attention.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Roof Edge Flashings and Copings:
   1. ATAS International, Inc; Rapid-Lok Fascia: www.atas.com/#sle.
   2. Drexel Metals Inc; Fascia: www.drexmet.com/#sle.
   3. Metal-Era Inc: www.metalera.com/#sle.
   4. Metal Roofing Systems, Inc; Rapid Lock Coping: www.metalroofingsystems.biz/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

B. Pipe and Penetration Flashings:
   1. Elmdor Stonemen: www.elmdorstoneman.com/#sle.
   2. Portals Plus: www.portalsplus.com/#sle.
   3. Substitutions: See Section 016000 - Product Requirements.

C. Counterflashings:
   1. ATAS International, Inc: www.atas.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

2.2 COMPONENTS

A. Roof Edge Flashings: Factory fabricated to sizes required; corners mitered; concealed fasteners.

1. Configuration: Fascia, and edge securement for roof membrane.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test methods RE-1 and RE-2 to positive and negative design wind pressure as defined by New York State Building Code
3. Exposed Face Height: As indicated on drawings.
4. Material: Extruded aluminum, 24 ga. thick, minimum.
5. Finish: 70 percent polyvinylidene fluoride.
6. Color: To be selected by Architect from manufacturer's standard range.
7. Manufacturers:
   a. Metal-era Engineered Roof Solutions; Basis of Design; SecurEdge 200 Fascia System; www. metalera.com/#sle.
      1) Utilize SecurEdge 200 Fascia Extender as indicated on Drawings.
   b. Substitutions: See Section 016000 - Product Requirements.

B. Copings: Factory fabricated to sizes required; corners mitered; concealed fasteners.
1. Configuration: Concealed continuous hold down cleat at both legs; internal splice piece at joints of same material, thickness, and finish as cap; concealed stainless steel fasteners.
2. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3 to positive and negative design wind pressure as defined by New York State Building Code.
3. Wall Width: As indicated on drawings.
4. Outside Face Height: As indicated on drawings.
5. Inside Face Height: As indicated on drawings.
6. Material: Formed aluminum sheet, 0.040 inch (1.01 mm) thick, minimum.
7. Finish: 70 percent polyvinylidene fluoride.
8. Color: To be selected by Architect from manufacturer's standard range.
9. Manufacturers:
   a. Metal-Era Inc; Basis of Design: SecurEdge 200 Coping: www.metalera.com/#sle.
   b. Substitutions: See Section 016000 - Product Requirements.

C. Pipe and Penetration Flashing: Base of rounded aluminum, compatible with sheet metal roof systems, and capable of accomodating pipes sized between 3/8 inch (9.5 mm) and 12 inch (305 mm).
1. Caps: EPDM.
2. Color: Manufacturer's Standard.

D. Roof Penetration Sealing Systems: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for conduits and roofing system to be installed; designed to accommodate existing penetrations where applicable.

E. Counterflashing:
1. Counterflashings: Factory fabricated and finished sheet metal that overlaps top edges of base flashing by at least 4 inches (102 mm), and designed to snap into thru-wall flashing or reglets with lapped joints.
   a. Material: Formed aluminum sheet, 0.025 inch (0.64 mm) thick, minimum.
   b. Finish: PVDF Coating (Superior Performance).
   c. Color: To be selected by Architect from manufacturer's standard range.

2.3 FINISHES

A. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as selected from manufacturer's standard colors.

2.4 ACCESSORIES

A. Sealant for Joints in Linear Components: As recommended by component manufacturer.

B. Adhesive for Anchoring to Roof Membrane: Compatible with roof membrane and approved by roof membrane manufacturer.

C. Roof Cement: ASTM D4586/D4586M, Type I.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that deck, curbs, roof membrane, base flashing, and other items affecting work of this Section are in place and positioned correctly.
   1. Refer to Section 077200 for information on roofing related accessories.

3.2 INSTALLATION

A. Install components in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

B. Seal joints within components when required by component manufacturer.

C. Anchor components securely.

D. Coordinate installation of components of this section with installation of roofing membrane and base flashings.

E. Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.

F. Coordinate installation of flashing flanges into reglets.

END OF SECTION

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SECTION 077200
ROOF ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Curbs.

B. Equipment rails.

C. Roof penetrations mounting curbs.

1.2 RELATED REQUIREMENTS

A. Section 053100 - Steel Decking.

B. Section 077100 - Roof Specialties: Other manufactured roof items.

1.3 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures, 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. Non-penetrating Rooftop Supports: Submit design calculations for loadings and spacings.
   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.
   3. Submit documentation that roof accessories are acceptable to roofing manufacturer, and do not limit the roofing warranty.

1.5 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.

1.6 WARRANTY

A. See Section 017700 - Closeout Procedures, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.1 ROOF CURBS

A. Manufacturers:
   1. AES Industries Inc: www.aescurb.com/#sle.
   2. The Pate Company: www.patecurbs.com/#sle.

3. Substitutions: See Section 016000 - Product Requirements.

B. Roof Curbs Mounting Assemblies: Factory fabricated hollow sheet metal construction, internally reinforced, and capable of supporting superimposed live and dead loads and designated equipment load with fully mitered and sealed corner joints welded or mechanically fastened, and integral counterflashing with top and edges formed to shed water.
   1. Applications: Roof curbs used for roof penetrations/openings as indicated on drawings.
   2. Roof Curb Mounting Substrate: Curb substrate consists of steel roof deck.
   3. Sheet Metal Material:
      a. Aluminum: 0.080 inch (2.03 mm) minimum thickness, with 3003 alloy, and H14 temper.
         1) Finish: Mill finish.
   4. Provide layouts and configurations indicated on drawings.

C. Equipment Rail Curbs: Straight curbs on each side of equipment, with top of curbs horizontal and level with each other for equipment mounting.
   1. Provide preservative treated wood nailers along top of rails.
   2. Height Above Finished Roof Surface: 8 inches (203 mm), minimum.
   3. Manufacturers:
      a. MKT Metal Manufacturing; Equipment Rails: www.mktduct.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

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 CLEANING

A. Clean installed work to like-new condition.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 078413

PENETRATION FIRESTOPPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Penetrations in fire-resistance-rated walls.
2. Penetrations in horizontal assemblies.

B. Related Sections:

1. Section 078446 "Fire-Resistive Joint Systems" for joints in or between fire-resistance-rated construction, at exterior curtain-wall/floor intersections, and in smoke barriers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Schedule: For each penetration firestopping system. Include location and design designation of qualified testing and inspecting agency.

1. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping condition, submit illustration, with modifications marked, approved by penetration firestopping manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Installer Certificates: From Installer indicating penetration firestopping has been installed in compliance with requirements and manufacturer's written recommendations.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for penetration firestopping.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."

1. Be a member in good standing of the Fire Stop Contractors International Association
2. Licensed by a state or local authority , where applicable
3. Approved by the Universities Fire Marshal for each specific Job
4. Shown to have successfully completed not less than 5 comparable size projects.

B. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:
   1. Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.
   2. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
      a. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
      b. Classification markings on penetration firestopping correspond to designations listed by the following:
         1) UL in its "Fire Resistance Directory."

C. Preinstallation Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Do not install penetration firestopping when ambient or substrate temperatures are outside limits permitted by penetration firestopping manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.

B. Install and cure penetration firestopping per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.6 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping is installed according to specified requirements.

B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping.

C. Notify Owner's testing agency at least seven days in advance of penetration firestopping installations; confirm dates and times on day preceding each series of installations.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Hilti, Inc.

2.2 PENETRATION FIRESTOPPING

A. Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.

1. Fire-resistance-rated walls include fire-barrier walls.
2. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

C. Penetrations in Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.

1. Horizontal assemblies include floors.
2. F-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated.
3. T-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.

D. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.

1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at 0.30-inch wg at both ambient and elevated temperatures.

E. W-Rating: Provide penetration firestopping showing no evidence of water leakage when tested according to UL 1479.

F. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

G. VOC Content: Penetration firestopping sealants and sealant primers shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

H. Low-Emitting Materials: Penetration firestopping sealants and sealant primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

I. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency for firestopping indicated.

1. Permanent forming/damming/backing materials, including the following:
    a. Slag-wool-fiber or rock-wool-fiber insulation.
    b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
    c. Fire-rated form board.
    d. Fillers for sealants.
2. Temporary forming materials.
3. Substrate primers.
4. Collars.
5. Steel sleeves.

2.3 FILL MATERIALS

A. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer metallic sleeve lined with an intumescent strip, a radial extended flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.

B. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.

C. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

D. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced elastomeric sheet bonded to galvanized-steel sheet.

E. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.

F. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.

G. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.

H. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.

I. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below:

1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces, and nonsag formulation for openings in vertical and sloped surfaces, unless indicated firestopping limits use of nonsag grade for both opening conditions.

2.4 MIXING

A. For those products requiring mixing before application, comply with penetration firestopping manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings immediately before installing penetration firestopping to comply with manufacturer's written instructions and with the following requirements:

1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping.
2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping. Remove loose particles remaining from cleaning operation.
3. Remove laitance and form-release agents from concrete.

B. Priming: Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

C. Masking Tape: Use masking tape to prevent penetration firestopping from contacting adjoining surfaces that will remain exposed on completion of the Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove stains. Remove tape as soon as possible without disturbing firestopping's seal with substrates.

3.3 INSTALLATION

A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.

1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestopping.

C. Install fill materials for firestopping by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

A. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Designation of applicable testing and inspecting agency.
4. Date of installation.

5. Manufacturer's name.
6. Installer's name.

3.5 FIELD QUALITY CONTROL

A. Owner will engage a qualified testing agency to perform tests and inspections.

B. Where deficiencies are found or penetration firestopping is damaged or removed because of testing, repair or replace penetration firestopping to comply with requirements.

C. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

3.7 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

A. Firestop Systems with No Penetrating Items: Comply with the following:
   1. Available UL-Classified Systems:
      a. C-AJ-0001-0999.
      b. W-L-0001-0999.
   2. Type of Fill Materials: One or more of the following:
      a. Latex sealant.
      b. Silicone sealant.
      c. Intumescent putty.
      d. Mortar.

B. Firestop Systems for Metallic Pipes, Conduit, or Tubing: Comply with the following:
   1. Available UL-Classified Systems:
      a. C-AJ-1001-1999.
      b. W-L-1001-1999.
   2. Type of Fill Materials: One or more of the following:
      a. Latex sealant.

b. Silicone sealant.
c. Intumescent putty.
d. Mortar.

C. Firestop Systems for Nonmetallic Pipe, Conduit, or Tubing: Comply with the following:
1. Available UL-Classified Systems:
a. C-AJ-2001-2999.
b. W-L-2001-2999.
2. Type of Fill Materials: One or more of the following:
a. Latex sealant.
b. Silicone sealant.
c. Intumescent putty.
d. Intumescent wrap strips.
e. Firestop device.

D. Firestop Systems for Electrical Cables: Comply with the following:
1. Available UL-Classified Systems:
a. C-AJ-3001-3999.
b. W-L-3001-3999.
2. Type of Fill Materials: One or more of the following:
a. Latex sealant.
b. Silicone sealant.
c. Intumescent putty.
d. Silicone foam.

E. Firestop Systems for Cable Trays: Comply with the following:
1. Available UL-Classified Systems:
a. C-AJ-4001-4999.
b. W-L-4001-4999.
2. Type of Fill Materials: One or more of the following:
a. Latex sealant.
b. Intumescent putty.
c. Silicone foam.

F. Firestop Systems for Insulated Pipes: Comply with the following:
1. Available UL-Classified Systems:
a. C-AJ-5001-5999.

b. W-L-5001-5999.

2. Type of Fill Materials: One or more of the following:
   a. Latex sealant.
   b. Intumescent putty.
   c. Silicone foam.
   d. Intumescent wrap strips.

G. Firestop Systems for Miscellaneous Electrical Penetrants: Comply with the following:
   1. Available UL-Classified Systems:
      a. C-AJ-6001-6999.
      b. W-L-6001-6999.
   2. Type of Fill Materials: One or more of the following:
      a. Latex sealant.
      b. Intumescent putty.
      c. Mortar.

H. Firestop Systems for Miscellaneous Mechanical Penetrations: Comply with the following:
   1. Available UL-Classified Systems:
      a. C-AJ-7001-7999.
      b. W-L-7001-7999.
   2. Type of Fill Materials: One or both of the following:
      a. Latex sealant.
      b. Mortar.

I. Firestop Systems for Groupings of Penetrations: Comply with the following:
   1. Available UL-Classified Systems:
      a. C-AJ-8001-8999.
      b. W-L-8001-8999.
   2. Type of Fill Materials: One or more of the following:
      a. Latex sealant.
      b. Mortar.
      c. Intumescent wrap strips.
      d. Firestop device.
      e. Intumescent composite sheet.

J. Smoke-stop Systems
   1. For all non-rated partitions required to control smoke only provide the following:

a. Mineral wool

b. Fire and smoke stopping sealant

END OF SECTION

SECTION 079200
JOINT SEALANTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Silicone joint sealants.
   2. Non-staining silicone joint sealants.
   3. Mildew-resistant joint sealants.
   4. Latex joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Joint-Sealant Schedule: Include the following information:
   1. Joint-sealant application, joint location, and designation.
   2. Joint-sealant manufacturer and product name.
   3. Joint-sealant formulation.
   4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Product Test Reports: For each kind of joint sealant, for tests performed by a qualified testing agency.

C. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.

D. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1. Sealant and Waterproofing Specialist: Engage an experienced sealant and waterproofing firm to perform work of this Section. Firm shall have completed work similar to extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing sealants is insufficient experience for this work.
    a. Field Supervision: Sealant and waterproofing specialist firms shall maintain experienced full-time supervisors on Project site during times that sealant and waterproofing work is in progress.
2. Provide a list of a minimum of 5 projects where sealant and waterproofing work was successfully installed

B. Product Testing: Test joint sealants using a qualified testing agency.
1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.
2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

C. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.5 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.6 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content: Sealants and sealant primers shall comply with the following:

1. Architectural sealants shall have a VOC content of 250 g/L or less.
2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.
3. Sealants and sealant primers for porous substrates shall have a VOC content of 775 g/L or less.

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Silicone, S, NS, 50, NT: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Dow Corning Corporation.
      1) Product :791
   b. GE Construction Sealants; Momentive Performance Materials Inc.
      1) Product: SCS2000 SillPruf
   c. Sika Corporation; Joint Sealants.
      1) Product: Sikasill WS-295

2.3 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. Dow Corning Corporation.
        1) Product :795
    b. GE Construction Sealants; Momentive Performance Materials Inc.
        1) Product : Sillpruf NB
    c. Tremco Incorporated.
    d. Product : Spectrem 3

C. Silicone, Nonstaining, M, NS, 50, T, NT: Nonstaining, multicomponent, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type M, Grade NS, Class 50, Use NT.
    1. Manufacturers: Subject to compliance with requirements, provide products by the following:
        a. Tremco Incorporated.
            1) Product : Tremco Spectrum 4-TS

2.4 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
    1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
        a. Dow Corning Corporation.
            1) Product :786-M
        b. GE Construction Sealants; Momentive Performance Materials Inc.
            1) Product :Sanitary SCS1700
        c. Tremco Incorporated.
            1) Product :Tremsil 200

2.5 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
    1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
        a. Pecora Corporation.

1) Product: AC-20s

b. Sherwin-Williams Company (The).

1) Product: Bolt Quick Dry.

c. Tremco Incorporated.

1) Product: Tremflex 834

2.6 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. BASF Corporation; Construction Systems.
2. Construction Foam Products; a division of Nomaco, Inc.

C. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    a. Concrete.
    b. Masonry.
    c. Unglazed surfaces of ceramic tile.
    d. Exterior insulation and finish systems.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    a. Metal.
    b. Glass.
    c. Porcelain enamel.
    d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.

2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Construction joints in cast-in-place concrete.
      b. Joints between plant-precast architectural concrete units.
      c. Control and expansion joints in unit masonry.
      d. Joints in dimension stone cladding.
      e. Joints in glass unit masonry assemblies.
      f. Joints in exterior insulation and finish systems.
      g. Joints between metal panels.
      h. Joints between different materials listed above.
      i. Perimeter joints between materials listed above and frames of doors, windows and louvers.
      j. Control and expansion joints in ceilings, and other overhead surfaces.
      k. Other joints as indicated on Drawings.
   2. Joint Sealant: Silicone, S, NS, 50, NT.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Construction joints in cast-in-place concrete.
      b. Joints between plant-precast architectural concrete units.

c. Control and expansion joints in unit masonry.
d. Joints in dimension stone cladding.
e. Joints in glass unit masonry assemblies.
f. Joints in exterior insulation and finish systems.
g. Joints between metal panels.
h. Joints between different materials listed above.
i. Perimeter joints between materials listed above and frames of doors, windows and louvers.
j. Control and expansion joints in ceilings and other overhead surfaces.
k. Other joints as indicated on Drawings.

2. Joint Sealant: Silicone, Non-staining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal traffic and nontraffic surfaces.

1. Joint Locations:
   a. Exterior and interior joints in Concrete Slabs and Sidewalk
   b. Other joints as indicated on Drawings.
2. Joint Sealant: Silicone, non-staining, S, NS, 50, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.

1. Joint Locations:
   a. Control joints on exposed interior surfaces of exterior walls.
   b. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
   c. Other joints as indicated on Drawings.
2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:
   a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
   b. Tile control and expansion joints where indicated.
   c. Other joints as indicated on Drawings.
2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION

SECTION 081113

HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes hollow-metal work.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, temperature-rise ratings, and finishes.

B. Shop Drawings: Include the following:
   1. Elevations of each door type.
   2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
   4. Locations of reinforcement and preparations for hardware.
   5. Details of each different wall opening condition.
   6. Details of anchorages, joints, field splices, and connections.
   7. Details of accessories.
   8. Details of moldings, removable stops, and glazing.
   9. Details of conduit and preparations for power, signal, and control systems.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.5 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.

B. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Ceco Door; ASSA ABLOY.
2. Curries Company; ASSA ABLOY.
3. Steelcraft; an Allegion brand.

B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS

A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR DOORS AND FRAMES

A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2.

1. Physical Performance: Level B according to SDI A250.4.
2. Doors:
    a. Type: As indicated in the Door and Frame Schedule.
    b. Thickness: 1-3/4 inches (44.5 mm).
    c. Face: Metallic-coated, cold-rolled steel sheet, minimum thickness of 0.042 inch (1.0 mm).
    d. Edge Construction: Model 1, Full Flush.
    e. Core: Vertical steel stiffener with fiberglass between stiffeners
3. Frames:
    a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm).
    b. Sidelite and Transom Frames: Fabricated from same thickness material as adjacent door frame.
    c. Construction: Full profile welded.
4. Exposed Finish: Prime painted.

2.4 BORROWED LITES

A. Hollow-metal frames of metallic-coated steel sheet, minimum thickness of 0.042 inch (1.0 mm).

B. Construction: Full profile welded.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (51 mm) wide by 10 inches (254 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
3. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
4. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm), and as follows:
   1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
   2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch (51-mm) height adjustment. Terminate bottom of frames at finish floor surface.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.

D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
   1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

G. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.

H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

I. Glazing: Comply with requirements in Section 088000 "Glazing."

J. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.7 FABRICATION

A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch (0.66 mm), steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches (152 mm) apart. Spot weld to face sheets no more than 5 inches (127 mm) o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
2. Fire Door Cores: As required to provide fire-protection and temperature-rise ratings indicated.
3. Vertical Edges for Single-Acting Doors: Bevel edges 1/8 inch in 2 inches (3.2 mm in 51 mm).
4. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closures at exterior doors of same material as face sheets.
5. Bottom Edge Closures: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets.
6. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Sidelite and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
    a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:
        1) Two anchors per jamb up to 60 inches (1524 mm) high.
        2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
        3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.

4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.

b. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:

1) Three anchors per jamb up to 60 inches (1524 mm) high.
2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.

c. Compression Type: Not less than two anchors in each frame.

d. Postinstalled Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.

6. Head Anchors: Two anchors per head for frames more than 42 inches (1067 mm) wide and mounted in metal-stud partitions.

7. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.

E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

F. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.

2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.

3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.

4. Provide loose stops and moldings on inside of hollow-metal work.
5. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
6. Provide grained steel glazing trim where required to match texture of door face sheet.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
   1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

B. Factory Finish: Provide stain and clear top-coat finish at wood-grained steel doors

2.9 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.

B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    a. At fire-rated openings, install frames according to NFPA 80.
    b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    c. Install frames with removable stops located on secure side of opening.
    d. Install door silencers in frames before grouting.
    e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
    a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
5. Concrete Walls: Solidly fill space between frames and concrete with mineral-fiber insulation.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. In-Place Metal or Wood-Stud Partitions: Secure slip-on drywall frames in place according to manufacturer's written instructions.
8. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.

b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.

c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.

d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Steel Doors:

a. Between Door and Frame Jambs and Head: 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).

b. Between Edges of Pairs of Doors: 1/8 inch (3.2 mm) to 1/4 inch (6.3 mm) plus or minus 1/32 inch (0.8 mm).

c. At Bottom of Door: 3/4 inch (19.1 mm) plus or minus 1/32 inch (0.8 mm).

d. Between Door Face and Stop: 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

D. Glazing: Comply with installation requirements in Section 08 8000 "Glazing" and with hollow-metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow-metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

E. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.

F. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION

SECTION 081416
FLUSH WOOD DOORS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Solid-core doors with wood-veneer faces.
   2. Factory finishing flush wood doors.
   3. Factory fitting flush wood doors to frames and factory machining for hardware.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of door. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:
   1. Dimensions and locations of blocking.
   2. Dimensions and locations of mortises and holes for hardware.
   3. Dimensions and locations of cutouts.
   4. Undercuts.
   5. Requirements for veneer matching.
   6. Doors to be factory finished and finish requirements.
   7. Fire-protection ratings for fire-rated doors.

C. Samples for Initial Selection: For factory-finished doors.

D. Samples for Verification:
   1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish. For each wood species and transparent finish, provide set of three Samples showing typical range of color and grain to be expected in finished Work.

1.4 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in plastic bags or cardboard cartons.

C. Mark each door on bottom rail with opening number used on Shop Drawings.

1.6 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 25 and 55 percent during remainder of construction period.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
    a. Warping (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section.
    b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 76.2-mm) span.
2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Algoma Hardwoods, Inc.
2. Eggers Industries.
3. Marshfield Door Systems, Inc. Signature Series – Basis of Design

2.2 FLUSH WOOD DOORS, GENERAL

A. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, "Architectural Wood Flush Doors."

B. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.

C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Cores: Provide core specified or mineral core as needed to provide fire-protection rating indicated.

2. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.

D. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control, based on testing according to UL 1784.

E. Particleboard-Core Doors:

1. Particleboard: ANSI A208.1, Grade LD-2.

F. Mineral-Core Doors:

1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.
2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware.
3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.
   a. Screw-Holding Capability: 475 lbf (2110 N) per WDMA T.M.-10.

2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Solid-Core Doors:

1. Grade: Premium, with Grade A faces.
2. Species: Select white maple.
3. Cut: Plain sliced (flat sliced).
4. Match between Veneer Leaves: Book match.
5. Assembly of Veneer Leaves on Door Faces: Center-balance match.
6. Exposed Vertical Edges: Same species as faces - edge Type A.
7. Core: Particleboard or mineral core as needed to provide fire-protection rating indicated.
8. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering.

2.4 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.

1. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.

1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.

2.5 FACTORY FINISHING

A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
   1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Transparent Finish:
   1. Grade: Premium.
   2. Finish: WDMA TR-6 catalyzed polyurethane.
   3. Staining: Match existing doors.
   4. Sheen: Match existing doors.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine doors and installed door frames, with Installer present, before hanging doors.
   1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
   2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: For installation, see Section 087100 "Door Hardware."

B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
   1. Install fire-rated doors according to NFPA 80.
   2. Install smoke- and draft-control doors according to NFPA 105.

C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.

1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
    a. Comply with NFPA 80 for fire-rated doors.
    b. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
2. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION

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SECTION 083113
ACCESS DOORS AND FRAMES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Access doors and frames for walls and ceilings.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, fire ratings, materials, individual components and profiles, and finishes.

B. Shop Drawings:
   1. Include plans, elevations, sections, details, and attachments to other work.
   2. Detail fabrication and installation of access doors and frames for each type of substrate.

C. Samples: For each door face material, at least 3 by 5 inches in size, in specified finish.

D. Product Schedule: Provide complete access door and frame schedule, including types, locations, sizes, latching or locking provisions, and other data pertinent to installation.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Access Doors and Frames: Units complying with NFPA 80 that are identical to access door and frame assemblies tested for fire-test-response characteristics according to the following test method and that are listed and labeled by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
   1. NFPA 252 or UL 10B for fire-rated access door assemblies installed vertically.
   2. NFPA 288 for fire-rated access door assemblies installed horizontally.

2.2 ACCESS DOORS AND FRAMES FOR WALLS AND CEILINGS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. Milcor; Commercial Products Group of Hart & Cooley, Inc.

B. Flush Access Doors with Concealed Flanges:
   1. Model: Milcor DW
      a. Assembly Description: Fabricate door to fit flush to frame. Provide frame with gypsum board beads for concealed flange installation.
      b. Locations: Wall and ceiling.
      c. Door Size: see drawings.
      d. Finish: Powder Coated Gray.
   2. Frame Material: Same material as door.
   3. Hinges: Manufacturer's standard.
   4. Hardware: Cylinder lock.

C. Fire-Rated, Flush Access Doors with Concealed Flanges:
   1. Model: Milcor UFR DW.
      a. Assembly Description: Fabricate door to fit flush to frame, with a core of mineral-fiber insulation enclosed in sheet metal. Provide self-latching door with automatic closer and interior latch release. Provide frame with gypsum board beads for concealed flange installation.
   2. Locations: Wall and ceiling.
   3. Door size: see drawings.
   4. Fire-Resistance Rating: Not less than that of adjacent construction.

5. Uncoated Steel Sheet for Door: Nominal 0.036 inch, 20 gage.
   a. Finish: Factory prime, gray powder coat.
6. Hinges: Manufacturer's standard.
7. Hardware: cylinder lock.

D. Flush Access Doors with Exposed Flanges:
1. Model: Milcor M
   a. Assembly Description: Fabricate door to fit flush to frame. Provide exposed frame installation.
   b. Locations: Wall and ceiling.
   c. Door Size: see drawings.
   d. Finish: Powder Coated Gray.
2. Frame Material: Same material as door.
3. Hinges: Manufacturer's standard.
4. Hardware: Cylinder lock

E. Fire-Rated, Flush Access Doors with Exposed Flanges:
1. Model: Milcor UFR.
   a. Assembly Description: Fabricate door to fit flush to frame, with a core of mineral-fiber insulation enclosed in sheet metal. Provide self-latching door with automatic closer and interior latch release. Provide surface mounted frame.
2. Locations: Wall and Ceiling.
3. Door size: see drawings.
4. Fire-Resistance Rating: Not less than that of adjacent construction.
5. Uncoated Steel Sheet for Door: Nominal 0.036 inch, 20 gage.
   a. Finish: Factory prime, gray powder coat.
6. Hinges: Manufacturer's standard.
7. Hardware: Cylinder lock.

2.3 MATERIALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Frame Anchors: Same type as door face.

C. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

2.4 FABRICATION

A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.

B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access doors to types of supports indicated.
1. For concealed flanges with drywall bead, provide edge trim for gypsum board and securely attached to perimeter of frames.
2. Provide mounting holes in frames for attachment of units to metal or wood framing.

D. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.
1. For cylinder locks, furnish two keys per lock and key all locks alike.
2. For recessed panel doors, provide access sleeves for each locking device. Furnish plastic grommets and install in holes cut through finish.

2.5 FINISHES

A. Steel and Metallic-Coated-Steel Finishes:
   1. Factory Prime: Apply manufacturer's standard, fast-curing, lead- and chromate-free, universal primer immediately after surface preparation and pretreatment.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates 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. Comply with manufacturer's written instructions for installing access doors and frames.

B. Install doors flush with adjacent finish surfaces or recessed to receive finish material.

3.3 ADJUSTING

A. Adjust doors and hardware, after installation, for proper operation.

B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION

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SECTION 083313
COILING COUNTER DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fire-rated coiling counter doors and operating hardware.

1.2 RELATED REQUIREMENTS

A. Section 055000 - METAL FABRICATIONS: Miscellaneous steel supports.
B. Section 061000 - ROUGH CARPENTRY: Rough openings.
C. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.
D. Section 092116 - Gypsum Board Assemblies: Rough openings.
E. Section 099123 - Interior Painting: Field paint finish.
F. Section 260533.13 - Conduit for Electrical Systems: Conduit from fire alarm system.
G. Section 260583 - Wiring Connections: Power to disconnect.
H. Section 284600 - Fire Detection and Alarm: Fire alarm interconnection.

1.3 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.
B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.
D. ITS (DIR) - Directory of Listed Products Current Edition.
E. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2022.
F. UL (DIR) - Online Certifications Directory Current Edition.
G. UL 1784 - Standard for Air Leakage Tests of Door Assemblies Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.
B. Product Data: Submit manufacturer's standard literature showing materials, individual components, details of construction and finish for each type of coiling counter door and accesory indicated.
    1. Include data of automatic closing devices and testing and re-setting instruction.

C. Shop Drawings: Indicate rough and actual opening dimensions, anchorage methods, hardware locations, and installation details, including special components not dimensioned or detailed in manufacturer's product data.
   1. Include plans, elevations, sections, and mounting details.
   2. Include details of equipment assemblies, and indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
   3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
   4. Show locations of controls, locking devices, detectors or replaceable fusible links, and other accessories.
   5. Include diagrams for power, signal, and control wiring.

D. Samples: Two slats, 4 inches long (102 mm long), illustrating shape, color, and finish texture.

E. Manufacturer's Installation Instructions: Indicate installation sequence and installation, adjustment, and alignment procedures.

F. Manufacturer's qualification statement.

G. Installer's qualification statement.

H. Specimen warranty.

I. Operation and Maintenance Data: Indicate modes of operation, lubrication requirements and frequency, and periodic adjustments required.

J. Project Record Documents: Include as-built electrical diagrams for electrical operation and connection to fire alarm system.

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. Installer Qualifications: Company specializing in performing work of type specified and with at least three years documented experience.

C. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.
   1. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

2. Smoke Control: In corridors and smoke barriers, provide doors that are listed and labeled with the letter "S" on the fire-rating label by a qualified testing agency for smoke- and draft-control based on testing according to UL 1784; with maximum air-leakage rate of 3.0 cfm/sq. ft. of door opening at 0.10 inch wg for ambient tests.

D. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction as suitable for the purpose specified and indicated.

1.6 WARRANTY

A. See Section 017700 - Closeout Procedures, for additional warranty requirements.

B. Manufacturer Warranty: Provide 2-year manufacturer warranty for counterbalance shaft assembly. Complete forms in Owner's name and register with manufacturer.

C. Standard Warranty: Two years from date of shipment against defects in material and workmanship.

D. Maintenance: Submit for owner’s consideration and acceptance of a maintenance service agreement for installed products.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain specified products from single source from single manufacturer.

B. The manufacturers and model numbers or series listed below are Basis-of-Design.

1. Subject to compliance with requirements of product identified as basis-of-design, other manufacturers shall be considered for bidding as an equivalent when the bidder provides a written request for equivalency to the Architect prior to bidding.
2. Follow all instructions as indicated in Section 012519 - Equivalent Procedures.

C. Coiling Counter Fire Doors:

1. Cornell Iron Works, Inc.; Model ERC10: www.cornelliron.com.
2. Substitutions: See Section 016000 - Product Requirements.

2.2 COILING COUNTER DOORS

A. General:

1. Counter Door: Coiling counter door formed with curtain of interlocking metal slats.
2. Obtain coiling counter doors from single source from single manufacturer.
3. Obtain operators and controls from coiling counter door manufacturer.

B. Coiling Counter Doors, Fire-Rated: Galvanized steel slat curtain.
   1. Mounting: Interior face mounted.
   2. Fire Rating: 3/4 hour; comply with NFPA 80.
      a. Provide product listed and labeled by ITS (DIR) or UL (DIR) as suitable for the purpose specified and indicated.
   3. Nominal Slat Size: 1-1/4 inches (32 mm) wide.
   4. Slat Profile: Flat.
   5. Finish, Galvanized Steel: No additional finish.
   6. Guides: Formed track; same material and finish as slats, unless otherwise indicated.
   7. Hood Enclosure: Manufacturer's standard; galvanized steel.
   8. Coiling Door Release Mechanism: Fire alarm system and fusible link activated with automatically governed closing speed.
   9. Manual hand crank lift operation.

2.3 COMPONENTS

A. Metal Curtain Construction: Interlocking, single-thickness slats.
   1. Slat Ends: Each slat fitted with end locks to act as wearing surface in guides and to prevent lateral movement.
   2. Curtain Bottom: Fitted with angles to provide reinforcement and positive contact in closed position.
   3. Steel Slats: ASTM A653/A653M galvanized steel sheet, with minimum G90/Z275 coating; minimum thickness 20 gauge, 0.04 inch (0.9 mm).

B. Guide Construction: Continuous, of profile to retain door in place, with mounting brackets of same metal.
   1. Guides for Galvanized Curtains: ASTM A36/A36M steel angles, size as indicated, hot-dip galvanized per ASTM A123/A123M.

C. Hood Enclosure: Internally reinforced to maintain rigidity and shape.

D. Roller Shaft Counterbalance: Steel pipe and torsion steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb (10 kg) nominal force to operate.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that adjacent construction is suitable for door installation.

B. Verify that electrical services have been installed and are accessible.

C. Verify that door opening is plumb, header is level, and dimensions are correct.

D. Notify Architect of any unacceptable conditions or varying dimensions.

E. Commencement of installation indicates acceptance of substrate and door opening conditions.

3.2 INSTALLATION

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

B. Install fire-rated doors in accordance with NFPA 80.

C. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

D. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

E. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

F. Coordinate installation of electrical service with Section 260583.

G. Complete wiring from fire alarm system .

H. Install perimeter trim as indicated.

3.3 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation From Plumb: 1/16 inch (1.5 mm).

C. Maximum Variation From Level: 1/16 inch (1.5 mm).

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft (3 mm per 3 m) straight edge.

3.4 ADJUSTING

A. Adjust operating assemblies for smooth and noiseless operation.

3.5 CLEANING

A. Clean installed components.

B. Remove labels and visible markings.

END OF SECTION

SECTION 084113

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.

1. Types of Aluminum Storefront Systems include:
    a. Basis of Design: Kawneer Trifab™ 451UT Framing – 2" x 4-1/2" (50.8 mm x 114.3 mm) nominal dimension; Thermal; Center Plane, Screw Spline Fabrication.

1.3 DEFINITIONS

A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufacturers Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 PERFORMANCE REQUIREMENTS

A. Storefront System Performance Requirements:

1. Wind loads: Provide storefront system; include anchorage, capable of withstanding wind load design pressures required by the Building Code of New York State.
2. Air Leakage: The test specimen shall be tested in accordance with ASTM E 283. Air Leakage rate shall not exceed 0.06 cfm/ft2 (0.3 l/s · m2) at a static air pressure differential of 6.2 psf (300 Pa) with interior seal, or, rate shall not exceed 0.06 cfm/ft2 (0.3 l/s · m2) at a static air pressure differential of 1.6 psf (75 Pa) without interior seal. CSA A440 Fixed Rating.
3. Water Resistance: The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 10 psf (479 Pa) as defined in AAMA 501.
4. Uniform Load: A static air design load of 30 psf (1436 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.

5. Seismic: When tested to AAMA 501.4, system must meet design displacement of 0.010 x the story height and ultimate displacement of 1.5 x the design displacement.
6. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures:
   a. Temperature Change (Range): 0 deg F (-18 deg C); 180 deg F (82 deg C).
   b. Test Interior Ambient-Air Temperature: 75 deg F (24 deg C).
   c. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5 for a minimum 3 cycles.
7. Energy Efficiency:
   a. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than the following:
      1) Fixed fenestration: 0.36.
      2) Operable fenestration: 0.43.
      3) Entrance doors: 0.77.
8. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
   a. 68frame and 68glass (low-e).
9. Condensation Resistance (I): When tested to CSA A-440, the condensation index shall not be less than:
   a. 60frame and 62glass (low-e).
10. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
    a. 37 (STC) and 30 (OITC).

1.5 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum-framed storefront system indicated.

B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

D. Samples for Verification: For aluminum-framed storefront system and components required.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type of aluminum-framed storefront.

F. Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum-framed systems, made from 12" (304.8 mm) lengths of full-size components and showing details of the following:

1. Joinery.
2. Anchorage.
3. Expansion provisions.
4. Glazing.
5. Flashing and drainage.

G. Other Action Submittals:

1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of providing aluminum framed storefront system that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.

C. Source Limitations: Obtain aluminum-framed storefront system through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum-framed storefront system and are based on the specific system indicated. Refer to Division 01 Section “Product Requirements”. Do not modify size and dimensional requirements.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section “Project Management and Coordination”.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of aluminum-framed storefront openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.8 WARRANTY

A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.
   1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.
   2. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or repalce components on which finishes do not comply ith requirements or that fail in materila or workmanship within specified warranty perios. Warranty does not include normal weathering.
      a. Warranty Period: Five years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:
   1. Kawneer Company Inc.
   2. Trifab™ 451UT Framing (Thermal)
   3. System Dimensions: 2" x 4-1/2" (50.8 mm x 114.3 mm)
   4. Glass: Center Plane

2.2 MATERIALS

A. Aluminum Extrusions: Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070" wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6 alloy and temper.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum window members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

E. Sealant: For sealants required within fabricated storefront system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.

F. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.3 STOREFRONT FRAMING SYSTEM

A. Thermal Barrier (Trifab™ 451UT):

1. Kawneer DUAL Isolock™ Thermal Break with two (2) 1/4" (6.4 mm) separations consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum storefront sections.
    a. Thermal Break shall be designed in accordance with AAMA TIR-A8 and tested in accordance with AAMA 505.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposes shall be stainless steel.

D. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

E. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

F. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.4 GLAZING SYSTEMS

A. Glazing: As specified in Division 08 Section “Glazing”.

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

E. Glazing Sealants: As recommended by manufacturer for joint type, and as follows:

1. Weatherseal Sealant: ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O; single-component neutral-curing formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use.

2.5 ENTRANCE DOOR SYSTEMS

A. Entrance Doors: As specified in Division 08 4113 Section "Aluminum-Framed Entrances and Storefronts".

B. Entrance Door Hardware: As specified in Division 08 4113 Section "Door Hardware".

2.6 ACCESSORY MATERIALS

A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section "Joint Sealants".

B. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30 mil (0.762 mm) thickness per coat.

2.7 FABRICATION

A. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fit joints; make joints flush, hairline and weatherproof.
3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
4. Physical and thermal isolation of glazing from framing members.
5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
6. Provisions for field replacement of glazing.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

B. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

C. Structural-Sealant-Glazed Framing Members: Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.

D. Storefront Framing: Fabricate components for assembly using manufacturer's standard installation instructions.

E. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.8 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing:

1. High-Performance Organic Finish: 3-caot fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply wiht coating and resin manufactuers' written instructions.
    a. Color and Glass: As selected by Architect from manufacturer's full range.

PART 1 EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight aluminum-framed storefront installation.

1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76 mm) of opening.
3. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum-framed storefront system, accessories, and other components.

B. Install aluminum-framed storefront system level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

C. Set sill members in bed of sealant or with gaskets, as indicated, for weather tight construction.

D. Install aluminum-framed storefront system and components to drain condensation, water penetrating joints, and moisture migrating within aluminum-framed storefront system to the exterior.

E. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 FIELD QUALITY CONTROL

A. Field Tests: Architect shall select storefront units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies shall be corrected as part of the contract amount.

1. Testing: Testing shall be performed by a qualified independent testing agency. Refer to Testing Section for payment of testing and testing requirements. Testing Standard per AAMA 503, including reference to ASTM E 783 for Air Infiltration Test and ASTM E 1105 Water Infiltration Test.
    a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft2, whichever is greater.
    b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 6.2 psf (300 Pa).

B. Manufacturer's Field Services: Upon Owner’s written request, provide periodic site visit by manufacturer’s field service representative.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Clean aluminum surfaces immediately after installing aluminum framed storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION

SECTION 084114

ALUMINUM-FRAMED ENTRANCES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Interior manual-swing entrance doors

1.3 DEFINITIONS

A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufactures Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed entrance doors shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

B. Aluminum-Framed Entrance Performance Requirements:

1. Uniform Load Deflection: A static air design load of;
    a. 500T: 70.19 psf (3360 Pa) for single doors and 60.15 psf (2880 Pa) for pairs of doors.
2. Forced Entry: Tested in accordance with AAMA 1304.

1.5 SUBMITTALS

A. Product Data: Include construction details, material descriptions, and fabrication methods, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum-framed entrance door indicated.

B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.

C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.

D. Samples for Verification: For aluminum-framed door and components required.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type of aluminum-framed entrance doors.

F. Fabrication Sample: Corner sample consisting of a door stile and rail, of full-size components and showing details of the following:

1. Joinery, including welds.
2. Glazing.

G. Other Action Submittals:

1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum-framed entrance doors and storefronts that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports and calculations.

C. Source Limitations: Obtain aluminum-framed door through one source from a single manufacturer.

D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum-framed glass entrance doors and are based on the specific system indicated. Refer to Division 01 Section “Product Requirements”. Do not modify size and dimensional requirements.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of aluminum-framed door openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.8 WARRANTY

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty.

1. Warranty Period: Two (2) years from Date of Substantial Completion of the project.

PART 1 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:

1. Kawneer Company Inc.
   a. 500 Heavy Wall Swing Door:
      1) Wide Stile

2) Dimensions:

(a) Vertical face dimensions: 5" (127.0 mm)

(b) Top Rail: 5"

(c) Bottom Rail: 10"

(d) Depth: 2" (50.8 mm)

(e) Wall Thickness: 3/`6" (4.8 mm) for high traffic applications

2. Major portions of the door members to be 0.188" (4.8 mm) nominal in thickness and glazing molding to be 0.05" (1.3 mm) thick
3. Glazing gaskets shall be either EPDM elastomeric extrusions or a thermoplastic elastomer.
4. Provide adjustable glass jacks to help center the glass in the door opening.

B. Subject to compliance with requirements, provide a comparable product by the following:

1. YKK AP Corp.
2. EFCO Corporation.

C. Substitutions: Refer to Section 01 6000 for procedures and submission requirements.

2.2 MATERIALS

A. Aluminum Extrusions: Alloy and temper recommended by aluminum-framed door manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.188" (4.8 mm) wall thickness at any location for the main frame and door leaf members.

1. Recycled Content: Shall have a minimum of 50% mixed pre- and post-consumer recycled content.

B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum-framed door members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.

E. Slide-In-Type Weather Stripping: Provide woven-pile weather stripping of wool, polypropylene, or nylon pile and resin-impregnated backing fabric. Comply with AAMA 701/702.

1. Weather Seals: Provide weather stripping with integral barrier fin or fins of semi-rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

2.3 GLAZING

A. Glazing: As specified in Division 08 Section “Glazing”.

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.4 HARDWARE

A. General: Refer to Section 087100 for hardware requirements not specified in this section.

B. Standard Hardware:

1. Weather-stripping:
    a. Meeting stiles on pairs of doors shall be equipped with two lines of weather-stripping utilizing wool pile with polymeric fin.
    b. The door weathering on a single acting offset pivot or butt hung door and frame (single or pairs) shall be comprised of a thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing and a wool pile with polymeric fin.
2. Sill Sweep Strips: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail with concealed fasteners (Necessary to meet specified performance tests).

2.5 FABRICATION

A. Fabricate aluminum-framed entrance doors in sizes indicated. Include a complete system for assembling components and anchoring doors.

B. Fabricate aluminum-framed doors that are reglazable without dismantling perimeter framing.

1. Door corner construction shall consist of mechanical clip fastening, SIGMA deep penetration plug welds and 1" (25.4 mm) long fillet welds inside and outside of all four corners. Glazing stops shall be hook-in type with EPDM glazing gaskets reinforced with non-stretchable cord.
2. Accurately fit and secure joints and corners. Make joints hairline in appearance.
3. Prepare components with internal reinforcement for door hardware.
4. Arrange fasteners and attachments to conceal from view.

C. Weather-stripping: Provide weather-stripping locked into extruded grooves in door panels or frames as indicated on manufactures drawings and details.

2.6 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing:

1. High-Performance Organic Finish: 3-coat fluoropolymner finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
    a. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 1 EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated installation.
    1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
    2. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
    3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum-framed entrance doors, hardware, accessories, and other components.

B. Install aluminum-framed entrance doors level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

C. Set sill threshold in bed of sealant, as indicated, for weather tight construction.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Provide periodic site visits by manufacturer’s field service representative.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Clean aluminum surfaces immediately after installing aluminum-framed door and storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION

SECTION 084523
2-3/4" INSULATED TRANSLUCENT FIBERGLASS SANDWICH PANEL CANOPY SKYLIGHT SYSTEM

PART 1 GENERAL

1.1 SUMMARY

A. Section includes the insulated, translucent sandwich panel system and accessories as shown and specified. Work includes providing and installing:
   1. Flat insulated, translucent sandwich panels
   2. Aluminum clamptite installation system
   3. Aluminum flashing attached to Skyroofs

1.2 SUBMITTALS

A. Submit manufacturer's product data. Include construction details, material descriptions, profiles, and finishes of components.

B. Submit shop drawings. Include plans, elevations, and details.

C. Submit manufacturer's color charts showing the full range of colors available for factory finished exposed aluminum.
   1. When requested, submit samples for each exposed finish required, in same thickness and material indicated for the work and in size indicated below.
      a. Sandwich panels: 7" x 12" units
      b. Factory finished aluminum: 3" long sections

D. Submit Installer Certificate, signed by installer, certifying compliance with project qualification requirements.

E. Submit product reports from a qualified independent testing agency indicating each type and class of panel system complies with the project performance requirements, based on comprehensive testing of current products. Previously completed reports will be acceptable if for current manufacturer and indicative of products used on this project.
   1. Reports required (if applicable) are:
      a. Flame Spread and Smoke Developed (UL 723) – Submit UL Card
      b. Burn Extent (ASTM D 635)
      c. Color Difference (ASTM D 2244)
      d. Impact Strength (UL 972)
      e. Bond Tensile Strength (ASTM C 297 after aging by ASTM D 1037)
      f. Bond Shear Strength (ASTM D 1002)
      g. Beam Bending Strength (ASTM E 72)
      h. Insulation U-Factor (NFRC 100)
      i. NFRC Visible Light Transmittance (NFRC 202)
      j. Solar Heat Gain Coefficient (NFRC or Calculations)
      k. Condensation Resistance Factor (AAMA 1503) (Thermally Broken, insulated panels only)
      l. Air Leakage (ASTM E 283)
      m. Structural Performance (ASTM E 330)
      n. Water Penetration (ASTM E 331)
      o. Fire Penetration of Exterior Wall Assemblies Using a Direct Flame Impingement Exposure (ASTM E2707)
      p. Fall Through Resistance (ASTM E 661)
      q. Class A Roof Covering Burning Brand (UL 790)

r. UL Listed Class A Roof System (UL 790) – Submit UL Card

1.3 CLOSEOUT SUBMITTALS

A. Provide field maintenance manual to include in project maintenance manuals.

1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
   1. Material and products shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least ten consecutive years and which can show evidence of those materials being satisfactorily used on at least six projects of similar size, scope, and location. At least three of the projects shall have been in successful use for ten years or longer.
   2. Panel system must be listed by an ANSI accredited Evaluation Service, which requires quality control inspections and fire, structural, and water infiltration testing of sandwich panel systems by an accredited agency.
   3. Quality control inspections shall be conducted at least once each year and shall include manufacturing facilities, sandwich panel components, and production sandwich panels for conformance with AC177 "Translucent Fiberglass Reinforced Plastic (FRP) Faced Panel Wall, Roof and Skylight Systems" as issued by the ICC-ES.

B. Installer's Qualifications: Installation shall be by an experienced installer, which has been in the business of installing Kalwall panel systems for at least two consecutive years and can show evidence of satisfactory completion of projects of similar size, scope, and type.

1.5 PERFORMANCE REQUIREMENTS

A. The manufacturer shall be responsible for the configuration and fabrication of the complete panel system.
   1. When requested, include span analysis data.
   2. Standard panel system shall have less than 0.01 cfm/ft² air leakage by ASTM E 283 at 6.24 PSF (50 mph) and no water penetration by ASTM E 331 at 15 PSF; and structural testing by ASTM E 330.
   3. Structural Loads. Provide Skyroof system capable of handling the following loads:
      a. Per design load critria

B. Deflection Limits:
   1. Skyroof: Limited to L/60 of clear span for each assembly component.

C. Thermal Movements: Allow for thermal movements from ambient- and surface-temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 110 deg F (43 deg C), ambient; 150 deg F (66 deg C), material surfaces.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver panel system, components, and materials in manufacturer's standard protective packaging.

B. Store panels on the long edge; several inches above the ground, blocked and under cover in accordance with manufacturer's storage and handling instructions.

1.7 WARRANTY

A. Provide manufacturer's and installer's written warranties agreeing to repair or replace panel system work, which fails in material or workmanship, within five year from the date of delivery. Failure of material or workmanship shall include deterioration of finish on metal in excess of normal weathering; and defects in accessories; insulated, translucent sandwich panels; and other components of the work.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. The basis for this specification is for products manufactured by Kalwall Corporation. Other manufacturers may bid this project subject to compliance with the performance requirements of this specification and submission of evidence thereof. Listing other manufacturers' names in this specification does not constitute approval of their products or relieve them of compliance with all the performance requirements contained herein.

B. Kalwall Corporation, Tel: (800) 258-9777 – Fax: (603) 627-7905 – Email: info@kalwall.com

2.2 PANEL COMPONENTS

A. Face Sheets:
   1. Translucent faces: Manufactured from glass fiber reinforced thermoset resins, formulated specifically for architectural use.
      a. Thermoplastic (e.g., polycarbonate, acrylic) faces are not acceptable.
      b. Face sheets shall not deform, deflect, or drip when subjected to fire or flame.
   2. Interior face sheets:
      a. Flame spread: Underwriters Laboratories (UL) listed, which requires periodic unannounced retesting, with flame spread rating no greater than 25 and smoke developed no greater than 450 when tested in accordance with UL 723.
      b. Burn extent by ASTM D 635 shall be no greater than 1".
   3. Exterior face sheets:
      a. Color stability: Full thickness of the exterior face sheet shall not change color more than 3 CIE Units DELTA E by ASTM D 2244 after 3 years outdoor South Florida weathering at 5° facing south as measured on a white sample, with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.
      b. Strength: Exterior face sheet shall be uniform in strength, impenetrable by hand held pencil and repel an impact minimum of 70 ft. lbs. without fracture or tear when impacted by a 3-1/4" diameter, 5 lb. free-falling ball per UL 972.
      c. Erosion Protection: Integral, embedded-glass erosion barrier.
   4. Appearance:
      a. Exterior face sheet: Smooth, .070" thick and white in color.
      b. Interior face sheet: Smooth, .045" thick and white in color.
      c. Face sheets shall not vary more than ± 10% in thickness and be uniform in color.

B. Grid Core:
   1. Aluminum I-beam grid core shall be of 6063-T6 or 6005-T5 alloy and temper with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16".
   2. I-beam Thermal break: Minimum 1", thermoset fiberglass composite. Poured and de-bridged thermal break is not acceptable.

C. Laminate Adhesive:

1. Heat and pressure resin type adhesive engineered for structural sandwich panel use, with minimum 25-years field use. Adhesive shall pass testing requirements specified by the International Code Council "Acceptance Criteria for Sandwich Panel Adhesives".
2. Minimum tensile strength of 750 PSI when the panel assembly is tested by ASTM C 297 after two exposures to six cycles each of the aging conditions prescribed by ASTM D 1037.
3. Minimum shear strength of the panel adhesive by ASTM D 1002 after exposure to four separate conditions:
   a. 50% Relative Humidity at 68° F: 540 PSI
   b. 182° F: 100 PSI
   c. Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI
   d. Accelerated Aging by ASTM D 1037 at 182° F: 250 PSI

2.3 PANEL CONSTRUCTION

A. Provide sandwich panels of flat fiberglass reinforced translucent face sheets laminated to a grid core of mechanically interlocking I-beams. The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge.
   1. Thickness: 2-3/4 inches
   2. Grid Core Insulation: Fill panel cores with air.
   3. Panel U-factor by NFRC certified laboratory:
      a. 2-3/4" aluminum grid .53 "U".
   4. Visible Light Transmittance (VLT):
      a. Visible LT (NFRC 202) by NFRC certified laboratory: 23%.
   5. Solar heat gain coefficient 0.30
   6. Grid pattern as viewed: Nominal size 8" x 20"; pattern shoji

B. Standard panels shall deflect no more than 1.9" at 30 PSF in 10'-0" span without a supporting frame by ASTM E 72.

C. Panels shall meet the conditions of acceptance according to ASTM E2707 Fire Penetration of Exterior Wall Assemblies Using a Direct Flame Impingement Exposure:
   1. Absence of flame penetration through the wall assembly at any time.
   2. Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 60-min observation period.
   3. Absence of evidence of flame, glow, and smoke if the test is terminated prior to the completion of the 60-min observation period.

D. Thermally broken, insulated panels: Minimum Condensation Resistance Factor of 80 by AAMA 1503 measured on the bond line.

E. Skyroof System:
   1. Skyroof system shall pass Class A Roof Burning Brand Test by UL 790.
   2. Skyroof system shall be UL listed as a Class A Roof by UL 790, which requires periodic unannounced factory inspections and retesting by Underwriters Laboratories.

F. Skyroof System shall meet the fall through requirements of OSHA 1910.21 as demonstrated by testing in accordance with ASTM E 661, thereby not requiring supplemental screens or railings.

2.4 ALUMINUM CLAMPTITE INSTALLATION SYSTEM

A. Aluminum clamptite installation system:
   1. Extruded aluminum 6063-T6 and 6063-T5 alloy and temper clamp-tite screw type closure system.
   2. Curved aluminum clamptite installation system may be roll formed.

3. Skyroof perimeter aluminum clamptite installation system at curbs shall be factory sealed to panels.

B. Sealing tape: Manufacturer's standard, pre-applied to aluminum clamptite installation system at the factory under controlled conditions.

C. Fasteners: 300 series stainless steel screws for aluminum clamptite installation system, excluding final fasteners to the building.

D. Finish:
1. Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Installer shall examine substrates, supporting structure, and installation conditions.

B. Do not proceed with panel installation until unsatisfactory conditions have been corrected.

PREPARATION

A. Metal Protection:
1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by sealant manufacturer for this purpose.
2. Where aluminum will contact concrete, masonry, or pressure treated wood, protect against corrosion by painting contact surfaces with bituminous paint or method recommended by sealant manufacturer.

INSTALLATION

A. Install the panel system in accordance with the manufacturer's fabrication drawings and suggested installation instructions.
1. Anchor component parts securely in place by permanent mechanical attachment system.
2. Accommodate thermal and mechanical movements.
3. Seal aluminum clamptite installation system as shown on the manufacturer's fabrication drawings and suggested installation instructions.

B. Install joint sealants at perimeter joints and within the panel system in accordance with manufacturers fabrication drawings and suggested installation instructions.

FIELD QUALITY CONTROL

A. Water Test: Installer to test a representative section of installed materials according to procedures in AAMA 501.2.

B. Repair or replace work that does not pass testing or that is damaged by testing and retest work.

CLEANING

A. Clean the panel system, interior and exterior, immediately after installation.

B. Refer to manufacturer's written recommendations.

END OF SECTION

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SECTION 085653
SECURITY WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Security transaction windows.

1.2 RELATED REQUIREMENTS

A. Section 042000 - Unit Masonry: Installation of anchorage items embedded in masonry.

B. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.

C. Section 081113 - Hollow Metal Doors and Frames : Interior, non-ballistic- and non-forced-entry-rated steel windows.

D. Section 092116 - Gypsum Board Assemblies: Bullet-resistant sheathing and wallboard for bullet-resistant partitions and walls.

E. Section 099123 - Interior Painting: Field painting.

1.3 REFERENCE STANDARDS

A. SSPC-SP 5 - White Metal Blast Cleaning 2007.

B. UL (DIR) - Online Certifications Directory Current Edition.

C. UL 752 - Standard for Bullet-Resisting Equipment Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Furnish anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, to be embedded into concrete or masonry, with setting diagrams and installation, to applicable installer in time for installation.

B. Preinstallation Meeting: Prior to start of installation arrange a meeting on site to familiarize installer and installers of related work with requirements relating to this work.

1.5 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Product Data: Manufacturer's published data showing materials, construction details, dimensions of components, and finishes.

C. Shop Drawings: Drawings prepared specifically for this project, showing plans, elevations, sections, details of construction, anchorage to other work, hardware, and glazing.

1. For new work show required opening dimensions and allowance for field deviation.
2. For field glazed windows, include detailed instructions for glazing installation.

D. Test Reports: Test reports for specific window model and glazing to be furnished, showing compliance with specified requirements; window and glazing may be tested separately, provided window test sample adequately simulates the glazing to be used.
   1. Include testing agency qualifications.
   2. For structural, forced entry, and ballistic tests, provide details on method of anchorage to test frame.

E. Samples for Selection of Applied Finishes: Color charts for factory finishes.

F. Samples:
   1. Actual sections of frame members, at least 12 inch (305 mm) long, showing finish, weatherstripping, and fasteners.

G. Coordination Drawings: For each window opening, show locations and details of items necessary to anchor windows that must be installed by others, in sufficient detail that installer of those items can do so correctly without reference to the actual window itself.

H. Manufacturer's Qualification Statement.

I. Installer's Qualification Statement.

J. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements for additional provisions.
   2. Extra Security Fasteners: At least one box for every 50 boxes, or fraction thereof, of each type and size installed; provide products matching those installed, packaged and labeled.
   3. Tool Kit: 6 sets of tools for security fasteners.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Firm with at least 5 years experience in the manufacture of windows of the type specified and able to provide test reports showing that their standard manufactured products meet the specified requirements; custom designed products not acceptable.

B. Testing Agency Qualifications: Independent testing agency able to show experience in conducting tests of the type specified and:

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

D. Welder Qualifications: Qualified in accordance with AWS procedures for type of welding required.

1.7 WARRANTY

A. See Section 017700 - Closeout Procedures for additional warranty requirements.

B. Furnish manufacturer's standard warranty document in which manufacturer agrees to repair or replace windows that fail in materials or workmanship within specified warranty period. This warranty is in addition to, and not a limitation of other rights Owner has under the contract.
   1. Warranty Period:
      a. One year parts and labor from date of installation.
   2. Failures include, but are not limited to, the following:
      a. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
      b. Structural failures including deflections exceeding 1/4 inch.
      c. Failure of welds.
      d. Excessive air leakage.

PART 2 PRODUCTS

2.1 MATERIALS

A. Aluminum Extrusions: ASTM B221/B221M. Provide alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish, but not less than 22,000-psi (150-MPa) ultimate tensile strength and not less than 0.125 inch (3.2 mm) thick at any location for main frame and sash members..

B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Metallic-Coated Steel Sheet:
   1. ASTM A653/A653M, CS (Commercial Steel), Type B; with G90 (Z275)zinc (galvanized) coating designation.
   2. AMS5511, steel, corrosion-resistant, sheet, strip, and plate, 19Cr - 9.5Ni (304L), solution heat treated.
   3. AMS5513, steel, corrosion-resistant, sheet, strip, and plate 19cr 9.2Ni (SAE

D. Stainless Steel Sheet, Strip, Plate, and Flat Bars:
   1. ASTM A666, austenitic stainless steel, Type 304, stretcher-leveled standard of flatness.
   2. ASME SA-240/SA-240M, chromium and chromium-nickel stainless steel plate, sheet, and strip for general applications.

E. Concealed Bolts: ASTM A307, Grade A unless otherwise indicated.

F. Cast-in-Place Anchors in Concrete: Fabricated from corrosion-resistant materials capable of sustaining, without failure, a load equal to four (4) times the load imposed, as determined by testing per ASTM E488, conducted by a qualified testing agency.

1. Threaded or wedge type; galvanized ferrous castings, either ASTM A27/A27M cast steel or ASTM A47/A47M malleable iron. Provide bolts, washers, and shims as required; hot-dip galvanized per ASTM A153/A153M or ASTM F2329

G. Embedded Plate Anchors: Fabricated from steel shapes and plates, minimum 3/16 inch (4.8 mm) thick; with minimum 1/2-inch- (12.7-mm-) diameter, headed studs welded to back of plate.

H. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

I. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil (0.76-mm) thickness per coat

J. Sealants: For sealants required within fabricated security windows, provide type recommended by manufacturer for joint size and movement. Sealant shall remain permanently elastic, nonshrinking, and nonmigrating.

K. Gaskets: For gaskets required within fabricated security windows, provide type recommended by manufacturer for joint size and movement. Gaskets shall remain permanently elastic, nonshrinking, and nonmigrating

2.2 WINDOW COMPONENTS

A. Glass:

1. Tempered Glass: 1/4 inch thick.

B. Miscellaneous Glazing Materials: Provide material, size, and shape complying with requirements of glass manufacturers, and with a proven record of compatibility with surfaces contacted in installation:

1. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.
2. Setting Blocks: Elastomeric material with a Type A Shore durometer hardnes of 85, plus or minus 5.
3. Spacers: Elastomeric blocks or continuous extrusion with a Type A Shore durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
4. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

C. Welding Materials

D. Anchors, Clips, and Window Accessories: Stainless steel; hot-sip, zinc coated steel or iron, of sufficient strength to withstand design pressure indicated.

2.3 SERVICE WINDOW UNITS

A. Manufacturers:

1. Quikserv Corp

a. Model: T1 - 3036S:
   1) Rough Opening: 30-3/8 inches (w) x 36-3/8 inches (h).
   2) Glazing: 1/4 inch tempered.
   3) Finish: Custom Color.

2.4 FABRICATION

A. Fabricate window to dimensions indicated on Drawings.

B. Fabricate windows, drawers and accessories to provide a complete system for assembly of components and anchorage of window, drawers and accessories.
   1. Provide units that are reglazable from the secure side without dismantling the nonsecure side of framing.
   2. Prepare security windows for glazing unless preglazing at the factory is indicated.

C. Rigidly fit and secure joints and corners with internal reinforcement. Make joints and connections flush, hairline, and weatherproof. Fully weld corners.

D. Prepare components with reinforcement required for hardware.

E. Welding: To greatest extent possible, weld before finishing and in concealed locations to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

F. Metal Protection: Separate dissimilar metals to protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

G. Factory-cut openings in glazing for speaking apertures.

H. Preglazed Fabrication: Preglaze window units at factory, where required for applications indicated.

I. Bottom Sills: Stainless steel construction, no bottom tracks and no pop rivets.

2.5 SHOP FINISHING

A. Aluminum Finishes:
   1. Mill Finished Aluminum Surfaces: manufacturer's standard finish.
   2. Painted Finish:
      a. AA-M12C12R1x non-specular as fabricated mechanical finish, chemically cleaned, and prepared for applied coating; with organic coating.
         1) Organic Coating: Manufacturer’s standard powder coat finish

B. Concealed Steel Items: Galvanized in accordance with ASTM A123 to thickness Grade 85, 2.0 oz/sq ft (610 gm/sq m).

C. Stainless Steel: 304 Stainless Steel with NAAMM No. 3 finish.

D. Apply bituminous paint to concealed metal surfaces in contact with cementitious or dissimilar materials.

E. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.

F. Extent of Finish:

1. Apply factory coating to all surfaces exposed at completed assemblies.
2. Apply finish to surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
3. Apply touch-up materials recommended by coating manufacturer for field application to cut ends and minor damage to factory applied finish.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that window openings are ready for installation of windows.

B. Notify Architect if conditions are not suitable for installation of windows; do not proceed until conditions are satisfactory.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions and drawing details.

B. Install windows in correct orientation (inside/outside or secure/non-secure).

C. Anchor windows securely in manner so as to achieve performance specified.

D. Separate metal members from concrete and masonry using bituminous paint.

E. Set sill members and sill flashing in continuous bead of sealant.

END OF SECTION

SECTION 08 7100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
1. Mechanical door hardware for the following:
   a. Swinging doors.
2. Field verification, preparation, and modification of existing doors and/or frames to receive new hardware.
3. Comply with New York State Education Department 1998 Edition of the Manual of Planning Standards Section S105 – Door Hardware and NFPA 101-Life Safety Code.

B. Related Sections:
1. Division 06 Section "Interior Architectural Woodwork" for cabinet door hardware provided as part of architectural woodwork.
2. Division 08 Section "Hollow Metal Doors and Frames".

1.3 SUBMITTALS

A. Product Data: For each item of hardware furnish manufacturer's catalog sheets highlighting information pertaining specifically to product (s) submitted. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Other Action Submittals:
1. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   a. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule." Double space entries, and number and date each page.
   b. Content: Include the following information:
      1) Identification number, location, hand, fire rating, size, and material of each door and frame.
      2) Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
      3) Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
      4) Description of electrified door hardware sequences of operation and interfaces with other building control systems.
      5) Fastenings and other pertinent information.
      6) Explanation of abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for door hardware.
      8) List of related door devices specified in other Sections for each door and frame.
      9) Door index – cross referencing door number with page and/or set number.
2. Keying Schedule: Prepared by or under the supervision of Installer, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.

C. Qualification Data: For Installer and Architectural Hardware Consultant.

D. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.

E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.

F. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

B. Architectural Hardware Consultant Qualifications: A 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.

C. Source Limitations: Obtain each type of door hardware from a single manufacturer.

D. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise indicated.

E. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meet requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
   1. Air Leakage Rate: Maximum air leakage of 0.3 cfm/sq. ft. at the tested pressure differential of 0.3-inch wg of water.

F. Means of Egress Doors: Latches do not require more than 15 lbf to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

G. Accessibility Requirements: For door hardware on doors in an accessible route, comply with the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.
   1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf.
   2. Comply with the following maximum opening-force requirements:
      a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf applied perpendicular to door.
      b. Sliding or Folding Doors: 5 lbf applied parallel to door at latch.
      c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
   3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch high.
   4. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.

H. Keying Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." In addition to Owner**,** Contractor, and Architect, conference participants shall also include Installer's Architectural Hardware Consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
   1. 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.

I. Preinstallation Conference: Conduct conference at Project site.
1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

1.6 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory 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.

E. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Structural failures including excessive deflection, cracking, or breakage.
b. Faulty operation of doors and door hardware.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

2. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.

a. Exit Devices: Three years from date of Substantial Completion.
b. Manual Closers: 25 years from date of Substantial Completion.
c. Lockset: 10 years from date of Substantial Completion.
d. Continuous Hinges: Lifetime of opening

1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

B. Maintenance Service: Beginning at Substantial Completion, provide six months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door and door hardware operation. Provide parts and supplies that are the same as those used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Provide door hardware for each door as scheduled on Drawings with hardware sets scheduled in Part 3 "Door Hardware Schedule" Article to comply with requirements in this Section.
   1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
   2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.

B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:
   1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements.

2.2 HINGES

A. Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
      a. McKinney Products Company; an ASSA ABLOY Group company.
      b. Stanley Commercial Hardware; Div. of The Stanley Works.
      c. Hager Companies

2.3 CONTINUOUS HINGES

A. Continuous Hinges: BHMA A156.26; minimum 0.120-inch- thick, hinge leaves with minimum overall width of 4 inches; fabricated to full height of door and frame and to template screw locations; with components finished after milling and drilling are complete.

B. Continuous, Gear-Type Hinges: Extruded-aluminum, pinless, geared hinge leaves joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
      a. ABH Manufacturing, Inc.
      b. Select Products, Ltd.
      c. Pemko Mfg. Co; an ASSA ABLOY Group company

2.4 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
   1. Bored Locks: Minimum 1/2-inch latchbolt throw.
   2. Mortise Locks: Minimum 3/4-inch latchbolt throw.
   3. Deadbolts: Minimum 1-inch bolt throw.

C. Lock Backset: 2-3/4 inches, unless otherwise indicated.

D. Lock Trim:
   1. Description: As indicated in door hardware schedule
   2. Levers: Zinc Alloy
   3. Escutcheons (Roses): Wrought
   4. Dummy Trim: Match lever lock trim and escutcheons.

E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
   1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
   2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.

F. Bored Locks: BHMA A156.2; Grade 1; Series 4000.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
      a. Best Access Systems; a Dormakaba Holding, Inc. company
      b. Sargent Manufacturing Company; an ASSA ABLOY Group company.
      c. Schlage Commercial Lock Division; an Allegion company.

2.5 MANUAL FLUSH BOLTS

A. Manual Flush Bolts: BHMA A156.16; minimum 3/4-inch throw; designed for mortising into door edge.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
      a. Rockwood; an ASSY ABLOY Group company
      b. Door Controls International, Inc.
      c. Ives Hardware; an Allegion company.

2.6 AUTOMATIC AND SELF-LATCHING FLUSH BOLTS

A. Automatic and Self-Latching Flush Bolts: BHMA A156.16; minimum 3/4-inch throw; designed for mortising into door edge.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
      a. Rockwood; an ASSY ABLOY Group company
      b. Door Controls International, Inc.
      c. Ives Hardware; an Allegion company.

2.7 EXIT DEVICES AND AUXILIARY ITEMS

A. Exit Devices and Auxiliary Items: BHMA A156.3.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
      a. Von Duprin; an Allegion Company
      b. Precision Hardware, Inc.; a Dormakaba Holding, Inc. company.
      c. Sargent Manufacturing Company; an ASSA ABLOY Group company.

2.8 LOCK CYLINDERS:

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule.
      a. Arrow USA: an ASSA ABLOY Group company (to match existing)

B. Standard Lock Cylinders: BHMA A156.5; Grade 1; permanent cores that are interchangeable; face finished to match lockset.

C. Construction Cores: Provide keyed alike construction cores and remove these when directed. Cores shall be painted a color for easy identification (blue, orange, etc.). Provide 10 construction keys and 3 construction control keys for removing temporary cores. Construction cores shall be returned to hardware supplier.

D. Permanent Cores: Provide final permanent Arrow cores with visual key control. Stamp keys and (in a concealed location) stamp cores with keyset symbol.

2.9 KEYING

A. Keying System: To continue the existing Arrow “Pointe Flex” key system established by A&N Rappaport Lock & Alarm, Inc., 31 New Main Street, Havershaw, NY 10927 (845-429-8400). Incorporate decisions made in keying conference.
   1. Master Key System: Change keys and a master key operate cylinders.
   2. Grand Master Key System: Change keys, a master key, and a grand master key operate cylinders.
   3. Great-Grand Master Key System: Change keys, a master key, a grand master key, and a great-grand master key operate cylinders.
   4. Existing System:
      a. Master key or grand master key locks to Owner's existing system.
   5. Keyed Alike: Key all cylinders to same change key.

B. Keys: Nickel silver.
   1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
      a. Notation: ‘DUPLICATION PROHIBITED”
   2. Quantity: In addition to one extra key blank for each lock, provide three change keys and quantity of Control Keys, Master Keys and Grand Master Keys as directed by Owner.
   3. Provide 3 Emergency Keys for Best “HJ” lock function

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2.10 ACCESSORIES FOR PAIRS OF DOORS

A. General: Provide accessories for pairs of doors as indicated on schedule.

B. Coordinators: BHMA A156.3; consisting of active-leaf, hold-open lever and inactive-leaf release trigger; fabricated from steel with nylon-coated strike plates; with built-in, adjustable safety release; and with internal override.

C. Carry-Open Bars: BHMA A156.3; prevent the inactive leaf from opening before the active leaf; provide polished brass or bronze carry-open bars with strike plate for inactive leaves of pairs of doors unless automatic or self-latching bolts are used.

D. Astragals: BHMA A156.22.

2.11 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door,

exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
   a. LCN; an Allegion company
   b. Dorma Architectural Hardware; Member of The DORMA Group North America.
   c. Sargent Manufacturing Company; an ASSA ABLOY Group company.

2.12 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: BHMA A156.16; polished cast brass, bronze, or aluminum base metal.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
   a. Rockwood: an ASSA ABLOY Group company
   b. Burns Manufacturing Incorporated.
   c. Ives Hardware; an Allegion company.

2.13 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders: BHMA A156.8.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
   a. Glynn-Johnson; an Ingersoll-Rand company.
   b. Architectural Builders Hardware Mfg., Inc.
   c. Rockwood Manufacturing Company.
   d. Sargent Manufacturing Company; an ASSA ABLOY Group company.

2.14 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
   a. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
   b. National Guard Products
   c. Zero International.

2.15 THRESHOLDS

A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
   a. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
   b. National Guard Products
   c. Zero International.

2.16 METAL PROTECTIVE TRIM UNITS

A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- thick aluminum, brass, bronze or stainless steel as scheduled; with four beveled edges and countersunk screw holes with manufacturer's standard machine or self-tapping screw fasteners.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:

a. Rockwood; an ASSA ABLOY Group company
b. Burns Manufacturing Incorporated.
c. Ives Hardware; an Allegion company.

2.17 FABRICATION

A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
1. Manufacturer's identification is permitted on rim of lock cylinders only.

B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.

C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted.
1. Fire-Rated Applications:
a. Wood or Machine Screws: For the following:
1) Hinges mortised to doors or frames; use threaded-to-the-head wood screws for wood doors and frames.
2) Strike plates to frames.
3) Closers to doors and frames.
b. Steel Through Bolts: Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware and approved by Architect.
1) Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
2) Verify that blocking is provide for the following:
a) Surface hinges to doors.
b) Closers to doors and frames.
c) Surface-mounted exit devices.
c. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
2. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."
3. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.18 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. 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.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

B. Wood Doors: Comply with DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."

3.3 INSTALLATION

A. Mounting Heights: 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. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
   1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
   2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

C. Provide and install all low voltage control wiring from power supply to all door hardware. Provide and install 120V power wiring from EC-provided junction box to power supply (supplied under this spec section).Provide wiring as recommended by device manufacturer.

D. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

E. Lock Cylinders: Install construction cores to secure building and areas during construction period.
   1. Replace construction cores with permanent cores as indicated in keying schedule.

F. Thresholds: Set thresholds for exterior and interior doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

G. 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 will impede traffic.

H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

I. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

J. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 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 is allowed to 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 months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE

A. Supplier shall assume full responsibility for examination of the drawings and shall be responsible for the accuracy of the quantities, size, finish, and proper hardware whether specifically mentioned or not. Hardware not listed specifically must be furnished to match other hardware in similar openings.

B. Provide all required accessories and options necessary for complete installation of each hardware component, to ensure proper operation of the product.

C. Centerline of new lock shall align with centerline of strike on existing frames.

D. GC to confirm the salvage status of all removed hardware with the Owner prior to disposal. Turn over to Owner any hardware items identified for salvage and dispose of the balance.

E. GC to remove silencers from existing frames where new smoke seal is specified.

F. Hardware Codes:

001	1 ea.	continuous hinge A160HD Clear
001A	1 ea.	continuous hinge A160HD Clear - Prep EPT
101	1 ea.	continuous hinge A240HD Clear
102	3 ea.	hinges T4B3786 US26D 4-1/2 x 4-1/2
103	3 ea.	hinges TB2714 US26D 4-1/2 x 4-1/2
104	3 ea.	hinges ball bearing US26D size & thickness to match existing frame cutout
200	1 ea.	closer (pull side) 4011 MC Alum x TB
200A	1 ea.	closer (pull side stop arm) Dorma 8916 IS FMC 689 SN1
201	1 ea.	closer (push side) 4111EDA MC Alum x TB
202	1 ea.	closer (push side stop arm) 4111CUSH MC Alum x TB

203	1 ea.	closer (push side stop hold open arm) 4111H-CUSH MC Alum

Note: Provide long arms, spacers, shoe supports and drop plates as required.

300	1 ea.	rim exit device HD-QEL35A-L x 360L** x 06 US26D with electric latch retraction & hex key dogging
301	1 ea.	rim exit device CD35A-L x 360L** x 06 US26D
302	1 ea.	power transfer EPT-10 SP28
303	1 ea.	keyed removable mullion KR4954 SP28
304	1 ea.	power supply PS902 x 900-2RS x 900-BBK

Note: **Set cylinder in 360L control trim for NL (night latch) function before installing cylinder-refer to installation instructions 941132-00.

400	1 ea.	rim 12E72 or mortise 1E74 cylinder 626
400A	1 ea.	Arrow Pointe Flex SFIC permanent core 7-pin combinated X71CR-1C Provide with tailpiece X71CRB7-44 for Best lever
401	1 ea.	lockset (classroom) 9K3-7R15D 626
402	1 ea.	lockset (storeroom) 9K3-7D15D 626
403	1 ea.	passage 9K3- 0N15D 626
404		Not Used
405	1 ea.	lockset (dormitory) 9K3-7T15D 626
406	1 ea.	mortise lockset (keyed restroom) Sargent V20-LB-70-8225OL US26D with occupancy indicator "Vacant/Occupied" & ADA thumb turn Note: Indicator with "Locked/Unlocked" not acceptable
407	1 ea.	lockset (keyed faculty restroom) 9K3-7HJ15D 626 Pushing the inside button blocks all operating keys, no indicator (Emergency entrance by removing the core with the control key and using a special emergency key)

Note: Provide 3/4" throw latch bolt at Pairs of Doors

502	2 ea.	flush bolts 555 12” US26D x 570 strike
503	3 ea.	silencers 608-RKW @ Single Drs., 2 @ Pair Drs.
504	1 ea.	wall bumper 409 US32D or floor stop 441 US26D
505	1 ea.	surface overhead stop GJ450S Series US32D
600	1 ea.	kick plate K1050 8” x 2”LDW @ Single Drs., 8” x 1”LDW @ Pair Drs. US32D .050 B4E x countersunk screw holes
700	1 ea.	smoke seal S44C (Clear) for H&J
700A	1 ea.	smoke seal S771C (Clear) for Meeting Stile
701	1 set	smoke seal 316AS x Tek for H&J
800	1 ea.	aluminum cover plate 14/1 - 1/4"H x width to match existing x WS10SS
801	1 ea.	aluminum cover plate 18/1 – 1/8” H x 8”W x MS10SS
900	1 ea.	electric strike HES 1006CS (Includes 2005M3) 24VDC Fail Secure 630

901	1 ea.	power supply Securitron BPS-24 x B-24-5
1000	1 ea.	access control by others

G. Hardware Sets (Doors/Codes):

	COTTAGE LANE ELEMENTARY SCHOOL (CLE)
SET C1	
102A (2)	001-001A-2/203-300-301-302-303-304-4/400-1000
SET C2	
201B	102-200A-400A-402-600-700-900-901-1000
SET C3	
202A	102-200-400A-405-504-600-700
SET C4	
102B	102-200A-400A-**405**-600-700
400	102-200A-400A-405-600-700
SET C5	
300D	103-400A-401-503-504
400A	103-400A-401-503-504
SET C6	
400B	103-400A-405-503-504
400C	103-400A-405-503-504
SET C7	
404A	103-400A-405-503-505
404B	103-400A-405-503-505
SET C8	
300E (2)	2/103-400A-401-502-503-2/505-800
SET C9	
501	801 (Verify width in field)
	WILLIAM O. SCHAFFER ELEMENTARY SCHOOL (WOS)
SET W1	
39	102-200-400A-405-504-600-700
SET W2	

40	102-200A-400A-406-600-700
SET W3	
38A	102-200-400A-407-600-700
SET W4	
13	102-200A-400A-405-600-700
16	102-200A-400A-405-600-700
38	102-200A-400A-405-600-700
SET W5	
16B	103-400A-401-503-505
SET W6	
16A	103-400A-405-503-504
SET W7	
09	104-200A-400A-402-600-700
50	104-200A-400A-402-600-700
52	104-200A-400A-402-600-700
SET W8	
01	104-200A-400A-405-600-700
02	104-200A-400A-405-600-700
03	104-200A-400A-405-600-700
04	104-200A-400A-405-600-700
06	104-200A-400A-405-600-700
15	104-200A-400A-405-600-700
17	104-200A-400A-405-600-700
19	104-200A-400A-405-600-700
21	104-200A-400A-405-600-700
24	104-200A-400A-405-600-700
26	104-200A-400A-405-600-700
30	104-200A-400A-405-600-700
32	104-200A-400A-405-600-700
42	104-200A-400A-405-600-700
57	104-200A-400A-405-600-700
59	104-200A-400A-405-600-700
61	104-200A-400A-405-600-700
62	104-200A-400A-405-600-700
63	104-200A-400A-405-600-700
64	104-200A-400A-405-600-700

65	104-200A-400A-405-600-700
66	104-200A-400A-405-600-700
67	104-200A-400A-405-600-700
68	104-200A-400A-405-600-700
70	104-200A-400A-405-600-700
100	104-200A-400A-405-600-700
104	104-200A-400A-405-600-700
105	104-200A-400A-405-600-700
SET W9	
32B	104-400A-**401**-503-504(FS)
SET W10	
15A	104-403-504
17A	104-403-504
19A	104-403-504
21A	104-403-504
24A	104-403-504
26A	104-403-504
30A	104-403-504
32A	104-403-504
100A	104-403-504
104A	104-403-504

END OF SECTION 08 7100

SECTION 088000
GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

A. Extent of glass and glazing is indicated on drawings, schedules and in provisions of this section.

B. Furnish and install insulated panels in locations indicated.

C. Examine other sections of specifications for glass and glazing work included therein.

1.3 RELATED WORK

A. Hollow Metal Doors is specified in another Division 8 section.

B. Hollow Metal Frames is specified in another Division 8 section.

1.4 QUALITY ASSURANCE

A. Use latest edition, including all addenda, revisions and supplements for all specifications, standards, codes, referred to herein.

B. Installer Qualifications: Personnel experienced in type of work encountered.

C. Requirements of Regulatory Agencies: Install glass and glazing to meet requirements of governing codes and Consumer Products Safety Standard Part 1201, "Safety Standards for Architectural Glazing Materials".

D. Fire Protective Rated Glass: Each lite shall bear permanent, non-removable label of UL certifying it for use in tested and rated fire protective assemblies.

E. Reference Standards:

1. American National Standards Institute: (ANSI)

    a. ANSI Z97.1-2004, Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings. American Society for Testing Materials.

2. Flat Glass Marketing Association: (FGMA)

    a. Glazing manual.
    b. Glazing sealing systems manual.

3. Sealed Insulation Glass Manufacturers Association: (SIGMA)

    a. No. 65-7-2, latest edition, Sealed Insulating Glass Units.
    b. No. 70-7-1, latest edition, Glazing Specifications for Sealed Insulating Glass Units.

4. American Society for Testing Materials (ASTM):

   a. ASTM C-1036.
   b. ASTM C-1048.

1.5 SUBMITTALS

A. Samples, if requested by Architect:

1. One (1) 6" x 6" sample of each type glass employed.

2. One (1) 12 inch length of each type gasket employed.

3. One bead, approximately 1/4 inch wide and 3 inches long of each sealant employed, indicating of set or cured material.

4. Color charts for selection of colors for insulated panels.

B. Manufacturer's Literature:

1. Manufacturer's descriptive data of glass and glazing materials.
2. Recommended installation instructions.
3. Name of flat glass manufacturer and performance characteristics of insulated units.

C. Certificates:

1. Manufacturer's certification that materials meet specification requirements.

2. Installers certification of experience.

3. Certification that glazing materials for insulating are compatible with seal on insulating glass.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver glass with manufacturer's ANSI and CPSS Rating Labels intact.

B. Do not remove manufacturer's labels until glass has been installed. ANSI and CPSS Designation to remain on glass.

C. Keep glass free from contamination by materials capable of staining glass.

D. Deliver glazing compounds and sealants in manufacturer's unopened, labeled containers.

E. Carefully store materials to reduce breakage to minimum.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Unless otherwise required by glazing materials manufacturers, perform glazing when ambient temperature is above 40 degrees F.

B. Perform glazing on dry surfaces only.

1.8 WARRANTY

A. Glass manufacturer shall provide a five (5) year written warranty against defective glass and seal of insulated glass.

B. Glazing applicator shall provide a five (5) year written warranty against defective glazing and glazing materials.

PART 2 - PRODUCTS

2.1 MANUFACTURER: Products of the following manufacturers, subject to compliance with requirements, will be acceptable:

A. Glass:

1. Guardian Industries Corp.
2. Pilkington Libbey-Owens-Ford.
3. P.P.G. Industries, Inc.

B. Glazing Compound:

1. Dow Corning Corp.
2. G.E. Silicone Products
3. Pecora Corporation
4. Tremco

2.2 MATERIALS

A. General:

1. All tempered safety glass shall bear a permanent monogram signifying compliance with Federal Standard 16 CFR 1201, CI and CII.

2. Glass thickness: As indicated on drawings unless otherwise specified.

B. Clear Float Glass Conforming to:

1. ASTM C-1036.

C. Clear Tempered Safety Float Glass Conforming to:

1. ANSI Z97.1-2004.
2. U.S. Consumer Product Safety Commission Standard 16 CFR 1201 CI and CII.
3. ASTM C-1048.

D. Fire Rated Safety Glass:

1. Equivalent to FireLite Plus as manufactured by Technical Glass Products.
2. Thickness: 5/16 inch.
3. Fire Rating: Fire rating listed and labeled by UL for fire rating scheduled at opening locations on drawings, when tested in accordance with ASTM E2074-00 and ASTM E2010-01.
4. Impact Safety Resistance: Meets ANSI Z97.1 and CPSC 16 CFR1201 (CI and CII).
5. Positive Pressure Test: UL 10C, UBC 7-2 and 7-4; passes.

6. Passes Hose Stream Test.
7. Glass Surface: Premium grade.
8. Labeling: Permanently label each piece of FireLite®Plus with the FireLite® logo, UL logo and fire rating in sizes up to 3,325 sq. in.

E. Insulating Glass Materials:

1. Insulating-Glass Units: General: Factory assembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article and in Part 2 “Insulating-Glass Units: Article.

   a. Provide Kind FT (fully tempered) glass lites
   b. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated for insulating glass units are nominal and the overall thickness if units are measured perpendicularly from outer surface of glass litres at units edge.
   c. Sealing system: Dual seal, with primary and secondary sealants as follows.
   d. Manufacturer’s standard sealants.
      a. Spacer Specifications: Manufacturer’s standard spacer material and construction.

2. Insulating-Glass Units: Guardian SNX or equivalent

   a. Overall U nit Thickness and Thickness of Each Lite; 1” and ¼” mm.
   b. Indoor Lite: Clear Float Glass, Type 1, Class 1, quality q3.
   c. Kind FT (fully tempered)
   d. Outdoor Lite: ASTM C 1036, Type 1, Class 1, Quality q3(transparent glass, flat) float glass.
      a. Product: SNX 62
   e. Low-E Coating on 2nd surface
   f. Visible Light Transmittance: 62 percent
   g. U-Value: .28 air
   h. Solar Heat Gain Coefficient: 0.27
   h. Shading Coefficient: 0.31
   i. Relative Heat Gain: 65
   j. Light to Solar Gain (LSG): 2.30
   k. Applications; Exterior windows and doors

G. Glazing Materials:

1. Exterior glazing compound:

   a. Conforming to F.S. TT-S-001543A (Class A) Silicone.

   b. Compatible with seal on insulating glass.

   c. Conform to Sigma No. 70-7-1.

2. Interior glazing compound: Conform to ASTM C-834 One Part Acrylic Latex.

3. Fire rated glazing: As recommended by glazing manufacturer.

4. Colors: As selected by Architect from manufacturer's standard colors.

H. Accessories:

1. Setting blocks: Neoprene, 70-90 shore "A" durometer hardness, chemically compatible with glass seals and sealants used.

2. Spacers: Neoprene, 40-50 shore "A" durometer hardness, chemically compatible with sealant used.

3. Glazing tape: Butyl rubber shimmed glazing tape, chemically compatible with sealant used.

4. Fire rated glazing: As recommended by glazing manufacturer.

5. Primer-sealers and cleaners: As recommended by glass manufacturer.

PART 3 - EXECUTION

3.1 INSPECTION

A. Check that:

1. Glazing channels are free of burrs, irregularities and debris.

2. Glass is free of edge damage or face imperfections.

3. Frames are firmly anchored in proper position, plumb and square.

4. All rivet, screw, bolt or nailheads, welding fillets, and other projections are removed from glazing rabbets to provide proper clearance.

5. All corners and fabrication intersections are sealed and frames are weathertight.

6. Rabbets are of sufficient depth and width to receive the glass and provide the required overlap of glass.

7. Glazing beads are required depth for glass scheduled to be installed.

8. Glazing materials for insulating glass are as recommended by glass manufacturer and have been certified to be compatible with glass types encountered.

9. Glazing system for conditions encountered are designed to prevent moisture from accumulating in glazing channel for prolonged periods.

B. Do not proceed with installation until conditions are satisfactory.

3.2 PREPARATION

A. Field Measurements:

1. Measure size of frame to receive glass.
2. Compute actual glass size allowing for edge clearances.

B. Preparation of Surfaces:

1. Remove protective coatings from surfaces to be glazed.

2. Clean glass and glazing surfaces to remove dust, oil and contaminants, and wipe dry. Assure that cleaning materials and/or solvents are compatible with seal on insulating glass.

3.3 INSTALLATION

A. Wet Glazed System:

1. Place setting blocks at quarter points of sill rabbet.

2. Install glazing tape with a 1/8 inch minimum space from top of frame member to top of glazing tape for installation of glazing sealant.

3. Place glass in frame plumb and square. Do not cut, seam, nip or abrade tempered, heat strengthened, coated or insulating glass.

4. Install removable stop, avoiding displacement of tape, and exert pressure on tape for full continuous contact using spacers shims at 12 inches to 18 inches O.C.

5. Apply cap bead of wet glazing compound to both sides of glass providing a water shed sloping away from glass.

B. Dry Glazing System:

1. Install glass in aluminum frames and doors using gasket glazing system recommended by aluminum frame and door manufacturer.

2. Place setting blocks at quarter point of sill rabbet.

3. Place glass in frame plumb and square. Do not cut, seam, nip or abrade tempered, heat strengthened, coated or insulating glass.

D. Interior Glazing:

1. Place setting blocks at quarter points of sill rabbet.
2. Place spacer blocks as recommended by glass manufacturer.
3. Install removable stops.
4. Apply cap bead of glazing compound.
5. Follow manufacturer’s requirements for fire rated glazing.

E. All glazing shall conform to Flat Glass Marketing Association and Sealed Insulation Glass Manufacturer's Association.

F. All materials must be compatible.

3.4 CLEANING

A. Remove excess glazing compound from installed glass.

B. Remove labels from glass surface as soon as installed. Do not remove ANSI and CPSS Conformance Labels.

C. Wash and polish both faces of glass.

D. Remove debris from work site.

3.5 PROTECTION OF COMPLETED WORK

A. Attach crossed streamers away from glass face.

B. Do not apply markers to glass surface.

C. Replace damaged glass.

D. Fix doors and window sash so they cannot be operated until compound has set.

END OF SECTION

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SECTION 092116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cementitious backing board.
B. Gypsum wallboard.
C. Joint treatment and accessories.

1.2 RELATED REQUIREMENTS

A. Section 061000 - ROUGH CARPENTRY: Wood blocking product and execution requirements.
B. Section 072100 - Thermal Insulation: Acoustic insulation.
C. Section 078400 - Firestopping: Top-of-wall assemblies at fire-resistance-rated walls.
D. Section 079200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.
E. Section 092216 - Non-Structural Metal Framing .
F. Section 093000 - Tiling: Tile backing board.

1.3 REFERENCE STANDARDS

A. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units 2018.
B. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2017 (Reapproved 2022).
C. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.
D. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2022.
E. ASTM C1325 - Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units 2022.
F. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.
G. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels 2019.
H. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber 2021.
I. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials 2020.
J. ASTM E413 - Classification for Rating Sound Insulation 2022.
K. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

L. UL (FRD) - Fire Resistance Directory Current Edition.

1.4 SUBMITTALS

A. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

B. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

C. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum 5 years of experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.
   1. See PART 3 for finishing requirements.

B. Fire-Resistance-Rated Assemblies: Provide completed assemblies as indicated
   1. Fire-Resistance-Rated Partitions: UL listed assembly No. As noted on drawings.
   2. Head of Fire-Resistance-Rated Partitions: UL listed assembly No. As noted on drawings..
   3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.2 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. National Gypsum Company: www.nationalgypsum.com/#sle.
   2. USG Corporation: www.usg.com/#sle.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
      a. Mold resistant board is required at all locations.
   3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   4. Thickness:

a. Vertical Surfaces: 5/8 inch (16 mm).
b. Ceilings: 5/8 inch (16 mm).
c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.

C. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
2. Application: Horizontal surfaces behind tile in wet areas including countertops and floors.
3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
4. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
a. Thickness: 5/8 inch.
b. Products:
1) National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com/#sle.
5. ASTM Cement-Based Board: Non-gypsum-based, cementitious board complying with ASTM C1288.
a. Thickness: 5/8 inch
b. Products:
1) James Hardie Building Products, Inc: www.jameshardie.com/#sle.

2.3 GYPSUM WALLBOARD ACCESSORIES

A. Acoustic Insulation: As specified in Section 072100.

B. Sound Isolation Tape: Elastomeric foam tape for sound decoupling.
1. Surface Burning Characteristics: Provide assemblies with flame spread index of 75 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
2. Tape Thickness: 1/4 inch (6 mm).
3. Products:
a. Armacell LLC; ArmaSound MTD: www.armacell.us/#sle.

C. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
1. Products:
a. Specified Technologies Inc; Smoke N Sound Acoustical Sealant: www.stifirestop.com/#sle.
b. Pecora Copporation; AC-20 FTR.

D. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Types: As detailed or required for finished appearance.
   2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead and LC-bead at exposed panel edges.
   3. Products:
      a. Same manufacturer as framing materials.

E. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Corner Beads: Low profile, for 90 degree outside corners.
      a. Products:
         1) ClarkDietrich; Strait-Flex Big-Stick: www.clarkdietrich.com/#sle.
   2. L-Trim with Tear-Away Strip: Sized to fit 5/8 inch (13 mm) thick gypsum wallboard.
      a. Products:
         1) Phillips Manufacturing Co; gripSTIK L-Tear: www.phillipsmfg.com/#sle.
   3. Expansion Joints:
      a. Type: V-shaped metal with factory-installed protective tape.
      b. Products:
         1) Phillips Manufacturing Co; 093 Expansion Control Joint: www.phillipsmfg.com/#sle.

F. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Fiberglass Tape: 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
   2. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
   3. Products:
      a. Continental Building Products; www.continental-bp.com/#sle.
   4. Joint Compound: Drying type, vinyl-based, ready-mixed.
      a. Products:
         1) CertainTeed Corporation; Extreme All-Purpose Joint Compound: www.certainteed.com/#sle.

G. Finishing Compound: Surface coat and primer, takes the place of skim coating.
   1. Products:

a. CertainTeed Corporation; Quick Prep Plus Interior Prep Coat: www.certainteed.com/#sle.

H. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

1. Products:

a. CertainTeed Corporation; Level V Wall and Ceiling Primer/Surfacer with M2Tech: www.certainteed.com/#sle.

b. USG Corporation; USG Sheetrock Brand Tuff-Hide Primer-Surfacer: www.usg.com/#sle.

I. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

J. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

K. Nails for Attachment to Wood Members: ASTM C514.

L. Adhesive for Attachment to Wood, ASTM C557 and Metal:

1. Products:

a. Franklin International, Inc; Titebond PROvantage Professional Drywall Adhesive: www.titebond.com/#sle.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.2 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.

1. Level ceiling system to a tolerance of 1/1200.
2. Laterally brace entire suspension system.
3. Install bracing as required at exterior locations to resist wind uplift.

C. Studs: Space studs as indicated at 16 inches on center (at 406 mm on center).

1. Extend partition framing to structure in all locations.
2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

E. Standard Wall Furring: Install at concrete and masonry walls scheduled to receive gypsum board, not more than 4 inches (100 mm) from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches (600 mm) on center.

1. Orientation: Horizontal.
2. Spacing: As indicated.

F. Blocking: Install wood blocking for support of:

1. Framed openings.
2. Wall-mounted cabinets.
3. Plumbing fixtures.
4. Toilet partitions.
5. Toilet accessories.
6. Wall-mounted door hardware.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Sound Isolation Tape: Apply to vertical studs and top and bottom tracks/runners in accordance with manufacturer's instructions.

C. Acoustic Sealant: Install in accordance with manufacturer's instructions.

1. Place two beads continuously on substrate before installation of perimeter framing members.
2. Place continuous bead at perimeter of each layer of gypsum board.
3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.4 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Double-Layer, Nonrated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.

D. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

E. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.

F. Cementitious Backing Board: Install over steel framing members where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

G. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

1. Single-Layer Application: Screw Attachment
2. Double-Layer Application: Install base layer using screws. Install face layer using adhesive.

3.5 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.

1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.6 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

1. Level 5: unless otherwise indicated
2. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
3. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
4. Level 0: Temporary partitions.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.

1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).
2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
3. Taping, filling, and sanding are not required at base layer of double-layer applications.

D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

E. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.7 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

3.8 FIRE AND SMOKE BARRIER INDENTIFICATION

A. Mark wall above ceiling every 8 feet maximum, once per wall section minimum, with its fire and/or smokebarrier designation

1. Designations to be marked clearly using die-cut mylar stencils.
2. Characters to be 4" minimum in height of a legible font type.
3. Character to be marked with bright red spray paint.
    a. Character Designations:
        1) One hour fire barrier
            (a) 1FB
        2) Two hour fire barrier
            (a) 2FB
        3) One hour smoke barrier
            (a) 1SB
        4) One hour fire/smoke barrier
            (a) 1FSB
        5) Two hour fire/smoke barrier
            (a) 2FSB
        6) Smoke Tight Partitions
            (a) ST

END OF SECTION

SECTION 092216
NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Metal partition, ceiling, and soffit framing.

B. Framing accessories.

1.2 RELATED REQUIREMENTS

A. Section 054000 - COLD-FORMED METAL FRAMING: Requirements for structural, load-bearing, metal stud framing and exterior wall stud framing.

B. Section 055000 - METAL FABRICATIONS: Metal fabrications attached to stud framing.

C. Section 061000 - ROUGH CARPENTRY: Wood blocking within stud framing.

D. Section 079200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

E. Section 083100 - Access Doors and Panels.

F. Section 092116 - Gypsum Board Assemblies: Execution requirements for anchors for attaching work of this section.

1.3 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2019.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.

C. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members 2015.

D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2018.

E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2020.

F. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs 2022.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings:

1. Indicate prefabricated work, component details, stud layout, framed openings, anchorage to structure, acoustic details, type and location of fasteners, accessories, and items of other related work.

2. Describe method for securing studs to tracks, splicing, and for blocking and reinforcement of framing connections.

C. Product Data: Provide data describing framing member materials and finish, product criteria, load charts, and limitations.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section with minimum five years documented experience and approved by manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Metal Framing, Connectors, and Accessories:
1. ClarkDietrich: www.clarkdietrich.com/#sle.
2. Marino: www.marinoware.com/#sle.
3. Substitutions: See Section 016000 - Product Requirements.

2.2 FRAMING MATERIALS

A. Fire-Resistance-Rated Assemblies: Comply with applicable code and as indicated on drawings.

B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (L/240 at 240 Pa).
1. Studs: C shaped with knurled or embossed faces.
   a. Products:
      1) Super Stud Building Products, Inc; The EDGE: www.buysuperstud.com/#sle.
      2) Substitutions: See Section 016000 - Product Requirements.
2. Runners: U shaped, sized to match studs.
3. Ceiling Channels: C shaped.
4. Furring: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).
5. Resilient Furring Channels: Single or double leg configuration; 1/2 inch (12 mm) channel depth.
   a. Products:
      1) ClarkDietrich; RC Deluxe Resilient Channel: www.clarkdietrich.com/#sle.
      2) Substitutions: See Section 016000 - Product Requirements.

C. Partition Head to Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and braced with continuous bridging on both sides.

D. Deflection and Firestop Track: Intumescent strip factory-applied to track flanges expands when exposed to heat or flames to provide a perimeter joint seal.
   1. Products:
      a. ClarkDietrich; BlazeFrame Firestop Deflection Track: www.clarkdietrich.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

E. Preformed Top Track Firestop Seal:
   1. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
   2. Products:
      a. Hilti, Inc; Top Track Seal CFS TTS: www.us.hilti.com/#sle.
      b. Specified Technologies Inc; SpeedFlex TTG Track Top Gasket: www.stfirestop.com/#sle.
      c. Substitutions: See Section 016000 - Product Requirements.

F. Non-Loadbearing Framing Accessories:
   1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

2.3 SUSPENSION SYSTEMS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-in or double strand of 0.048-inch- diameter wire.

B. Hanger Attachments to Concrete:
   1. Anchors: Fabricated from corrosion-resistant materials with holes or l wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agncy.
      a. Type: Postinstalled, expansion anchor.
   2. Powder-Actuated Fasteners: Suitable for application indicated, fabricate from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by constrruction as determined by testing according to ASTM E1190 by an independent testing agency.

C. Wire Hangers: ASTM A641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch in diamter.

D. Grid Suspension System for Gypsum Wallbaord Ceilings: ASTM C 645, direct-hung system composed of main beams an cross-furring members that interlock.
   1. Products: Subject to compliance with requirements, provide the following:
      a. Armstrong World Industries, Inc.; Drywall Grid Systems
      b. Chicago Metallic Corporation; Drywall Grid System
      c. USG Corporation; Drywall Suspension System

E. Aircraft Cable for Ceiling Clouds; Type 316 stainless steel, 7x7 wire rope. Federal Specification RR-W-410, TYpe V1, Class2

2.4 FABRICATION

A. Fabricate assemblies of framed sections to sizes and profiles required.

B. Fit, reinforce, and brace framing members to suit design requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that rough-in utilities are in proper location.

3.2 INSTALLATION OF STUD FRAMING

A. Comply with requirements of ASTM C754.

B. Extend partition framing to structure where indicated and to ceiling in other locations.

C. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

D. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs as indicated.

E. Align and secure top and bottom runners at 16 inches (____ mm) on center.

F. Fit runners under and above openings; secure intermediate studs to same spacing as wall studs.

G. Align stud web openings horizontally.

H. Secure studs to tracks using fastener method. Do not weld.

I. Fabricate corners using a minimum of three studs.

J. Install double studs at wall openings, door and window jambs, not more than 2 inches (50 mm) from each side of openings.

K. Brace stud framing system rigid.

L. Coordinate erection of studs with requirements of door frames; install supports and attachments.

M. Coordinate installation of bucks, anchors, and blocking with electrical, mechanical, and other work to be placed within or behind stud framing.

N. Blocking: Use wood blocking secured to studs. Provide blocking for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories, hardware, and opening frames.

O. Furring: Install at spacing and locations shown on drawings. Lap splices a minimum of 6 inches (150 mm).

3.3 CEILING AND SOFFIT FRAMING

A. Comply with requirements of ASTM C754.

B. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.

C. Install furring independent of walls, columns, and above-ceiling work.

D. Securely anchor hangers to structural members or embed them in structural slab. Space hangers as required to limit deflection to criteria indicated. Use rigid hangers at exterior soffits.

E. Space main carrying channels at maximum 72 inch (1 800 mm) on center, and not more than 6 inches (150 mm) from wall surfaces. Lap splice securely.

F. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.

G. Place furring channels perpendicular to carrying channels, not more than 2 inches (50 mm) from perimeter walls, and rigidly secure. Lap splices securely.

H. Reinforce openings in suspension system that interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24 inches (600 mm) past each opening.

I. Laterally brace suspension system.

3.4 TOLERANCES

A. Maximum Variation From True Position: 1/8 inch in 10 feet (3 mm in 3 m).

B. Maximum Variation From Plumb: 1/8 inch in 10 feet (3 mm in 3 m).

END OF SECTION

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SECTION 093000
TILING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Tile for floor applications.

B. Tile for wall applications.

C. Stone thresholds.

D. Ceramic trim.

E. Non-ceramic trim.

1.2 RELATED REQUIREMENTS

A. Section 071300 - Sheet Waterproofing.

B. Section 071400 - Fluid-Applied Waterproofing.

C. Section 079200 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.

D. Section 079513 - Expansion Joint Cover Assemblies: Expansion joint components.

E. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

F. Section 092116 - Gypsum Board Assemblies: Tile backer board.

1.3 REFERENCE STANDARDS

A. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium) 2019.

B. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar 2017.

C. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar 2017.

D. ANSI A108.1c - Contractor's Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar 1999 (Reaffirmed 2021).

E. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship 2019.

F. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive 2019.

G. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar 2021.

H. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grout Epoxy 1999 (Reaffirmed 2019).

I. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout 1999 (Reaffirmed 2019).

J. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout 1999 (Reaffirmed 2019).

K. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework 2017 (Reaffirmed 2022).

L. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units 2018.

M. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar 1999 (Reaffirmed 2019).

N. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone 2005 (Reaffirmed 2021).

O. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar 2020.

P. ANSI A118.1 - American National Standard Specifications for Dry-Set Cement Mortar 2019.

Q. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive 2021.

R. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar 2019.

S. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation 2019.

T. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units 2019.

U. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone 2014 (Reaffirmed 2019).

V. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation 2014 (Reaffirmed 2019).

W. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar 2019.

X. ANSI A137.1 - American National Standard Specifications for Ceramic Tile 2022.

Y. ASTM C150/C150M - Standard Specification for Portland Cement 2022.

Z. ASTM C373 - Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tiles and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products 2018.

AA. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring 2021.

BB. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride 2016a.

CC. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes 2019a.

DD. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation 2021.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Samples: Full-size samples of each type of tile, trim, and accessory for each color and finish required.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Master Grade Certificate: Submit for each type of tile, signed by the tile manufacturer and tile installer.

F. Installer's Qualification Statement:

1. Submit documentation of National Tile Contractors Association (NTCA) or Tile Contractors' Association of America (TCAA) accreditation.
2. Submit documentation of completion of apprenticeship and certification programs.
3. Submit documentation of Natural Stone Institute Accreditation.

G. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Tile: 5 percent of each size, color, and surface finish combination, but not less than 5 of each type.

1.5 QUALITY ASSURANCE

A. Maintain one copy of the ANSI A108/A118/A136 and the current TCNA (HB) on site.

B. Installer Qualifications: Natural Stone Institute (NSI) Accredited Commercial B Contractor (light commercial): www.naturalstoneinstitute.org/#sle.

C. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.

D. Installer Qualifications:

1. Company specializing in performing tile installation, with minimum of five years of documented experience.
    a. Accredited Five-Star member of the National Tile Contractors Association (NTCA) or Trowel of Excellence member of the Tile Contractors' Association of America (TCAA).

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.7 FIELD CONDITIONS

A. Do not install solvent-based products in an unventilated environment.

B. Maintain ambient and substrate temperature above 50 degrees F (10 degrees C) and below 100 degrees F (38 degrees C) during installation and curing of setting materials.

PART 2 PRODUCTS

2.1 TILE

A. Products: **Basis of Design:** Refer to drawing I000 Finish Schedule.

B. Substitutions: See Section016000-Product Requirements.

1. American Olean Corporation: www.americanolean.com/#sle.
2. Crossville Corporation: www.crossville.com.
3. Interceramic: www.interceramic.com/#sle.
4. Daltile: www.daltile.com.

C. Product Type :Glazed Wall Tile, Type TW-1, TW-2: ANSI A137.1 standard grade.

1. Moisture Absorption: 7.0 to 20.0 percent as tested in accordance with ASTM C373.
2. Size: 4in x 8in
3. Edges: Square.
4. Surface Finish: Refer to drawing I000 Finish Schedule
5. Color(s): Refer to drawing I000 Finish Schedule
6. Pattern: Refer to Interiors Drawings.
7. Trim Units: Refer to drawing I000 Finish Schedule and interior drawings
8. Products:
    a. **Basis of Design: Crossville - Refer to drawing I000 Finish Schedule**

b. Substitutions: See Section 016000 - Product Requirements.

D. Porcelain Tile, Type TF: ANSI A137.1 standard grade.

1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
2. Size: 2in x 2in mosaic (12in by 24in dot-mounted sheet)
3. Thickness: Refer to drawing I000 Finish Schedule
4. Surface Finish: Refer to drawing I000 Finish Schedule
5. Color(s): Refer to drawing I000 Finish Schedule.
6. Pattern: Refer to Interiors Drawings
7. Trim Units: Refer to drawing I000 Finish Schedule and interior drawings
8. Products:
   a. **Basis of Design: Daltile - Refer to drawing I000 Finish Schedule**
   b. Substitutions: See Section 016000 - Product Requirements.

2.2 TRIM AND ACCESSORIES

A. Ceramic Trim: Matching cove base ceramic shapes in sizes coordinated with field tile.

1. Applications: Where indicated on Interior Drawings.
   a. Floor to Wall Joints: Cove base.
2. Manufacturers: Same as for tile.

B. Metal Trim: Anodized Aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.

1. Applications: As indicated on Interior Drawings, including but not limited to the follwing:
   a. Open edges of wall tile.
   b. Open edges of floor tile.
   c. Wall corners, outside and inside.
   d. Transition between floor finishes of different heights.
   e. Thresholds at door openings.
   f. Expansion and control joints, floor and wall.
   g. Floor to wall joints.
   h. Borders and other trim as indicated on drawings.
2. Manufacturers **Basis of Design: Schluter Systems - Refer to I000 Finish Schedule**
   a. Substitutions: See Section016000-Product Requirements.

C. Thresholds: 4 inches (___ mm) wide by full width of wall or frame opening; beveled edge on both long edges; without holes, cracks, or open seams.

D. Shape to comply with ADA

1. Thickness: 1/2 inch (12.7 mm).
2. Material: Marble, honed finish.
3. Material: Solid surface acrylic resin, mineral filler, and pigments; non-porous, color and pattern consistent throughout thickness.
4. Material: Artificial stone tile; 93 percent quartz aggregate, resin, color pigments.
5. Applications: Toilet rooms
    a. At doorways where tile terminates.

2.3 SETTING MATERIALS

A. Provide setting and grout materials from same manufacturer.

B. Manufacturers:

1. ARDEX Engineered Cements: www.ardexamericas.com/#sle.
2. Custom Building Products; www.custombuildingproducts.com/#sle.
3. LATICRETE International, Inc; _____: www.laticrete.com/#sle.
4. Substitutions: See Section 016000 - Product Requirements.

C. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.

1. Applications: Use this type of bond coatd for all products larger than 15".
2. Products:
    a. ARDEX Engineered Cements; ARDEX X 5: www.ardexamericas.com/#sle.
    b. Custom Building Products Pro Lite Premium Large Format Tile Mortarwww.custombuildingproducts.com/#sle.
    c. LATICRETE International, Inc; 257 TITANIUM: www.laticrete.com/#sle.
    d. Substitutions: See Section 016000 - Product Requirements.

D. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, latex additive, and water.

1. Products:
    a. ARDEX Engineered Cements; A 38: www.ardexamericas.com/#sle.
    b. LATICRETE International, Inc; LATICRETE 3701 Fortified Mortar Bed: www.laticrete.com/#sle.
    c. Custom Building Products: Thick Bed Mortar.
    d. Substitutions: See Section 016000 - Product Requirements.

2.4 GROUTS

A. Provide setting and grout materials from same manufacturer.

B. Manufacturers:

1. Basis of Design: LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
2. Custom Building Products; www.custombuildingproducts.com/#sle.
3. Substitutions: See Section 016000 - Product Requirements.

C. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
2. Use sanded grout for joints 1/8 inch (3.2 mm) wide and larger; use unsanded grout for joints less than 1/8 inch (3.2 mm) wide.
3. Color(s): As selected by Architect from manufacturer's full line.
4. Products:
   a. Custom Building Product: Prism Ultimate Performance Grout www.custombuildingproducts.com/#sle.
   b. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
   c. Merkrete, by Parex USA, Inc; Merkrete Pro Grout: www.merkrete.com/#sle.
   d. Substitutions: See Section 016000 - Product Requirements.

D. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
1. Applications: All tile locations, unless noted otherwise (U.N.O).
2. Color(s): As selected by Architect from manufacturer's full line.
3. Products:
   a. Basis of Design: LATICRETE International, Inc; LATICRETE SPECTRALOCK PRO Premium Grout: www.laticrete.com/#sle.
   b. Substitutions: See Section 016000 - Product Requirements.

2.5 MAINTENANCE MATERIALS

A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
1. Applications: Between tile and plumbing fixtures.
2. Color(s): As selected by Architect from manufacturer's full line.
3. Products:
   a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com/#sle.
   b. Custom Building Products; Commercial 100% Silicone Caulk: www.custombuildingproducts.com/#sle.
   c. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com/#sle.

d. Substitutions: See Section 016000 - Product Requirements.

B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.

1. Composition: Water-based colorless silicone.
2. Color(s): As selected by Architect from manufacturer's full line.
3. Products:
   a. Merkrete, by Parex USA, Inc; Merkrete Grout Sealer: www.merkrete.com/#sle.
   b. LATICRETE International, Inc.; Stone Tech: www.laticrete.com/#sle .
   c. Substitutions: See Section 016000 - Product Requirements.

C. Tile Sealer: Stain protection for ceramic tile and natural stone tile.

1. Products:
   a. LATICRETE international, Inc; Bullet Proof: www.laticrete.com/sle#
   b. Substitutions: See Section 016000 - Product Requirements.

2.6 ACCESSORY MATERIALS

A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.

1. Crack Resistance: No failure at 1/8 inch (3.2 mm) gap, minimum.
2. Fluid or Trowel Applied Type:
   a. Material: Acrylic.
   b. Thickness: Mils as per manufacturer..
   c. Products:
      1) LATICRETE International, Inc; LATICRETE Blue 92 Anti-Fracture Membrane: www.laticrete.com/#sle.
      2) Custom Building Products: RedGard Liquid Applied Membrane
      3) Substitutions: See Section 016000 - Product Requirements.

B. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10. Water proofing and crack isolation to be thin, cold applied, single component liquid load bearing and UL GREENGUARD Gold certified. Reinforcing fabric to be non-woven rot proof specifically intended for waterproofing membrane.

1. Crack Resistance: No failure at 1/16 inch (1.6 mm) gap, minimum; comply with ANSI A118.12.
2. Fluid or Trowel Applied Type:

a. Material: Acrylic.
b. Thickness: Per manufacturer's recommendation, minimum, dry film thickness.
c. Products:
1) ARDEX Engineered Cements; ARDEX 8+9: www.ardexamericas.com/#sle.
2) Custom Building Products; RedGard Crack Prevention and Waterproofing Membrane: www.custombuildingproducts.com/#sle.
3) LATICRETE International, Inc; LATICRETE HYDRO BAN: www.laticrete.com/#sle.
4) Substitutions: See Section 016000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
C. Verify that subfloor surfaces are dust free and free of substances that could impair bonding of setting materials to subfloor surfaces.
D. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing for moisture and alkalinity (pH).
1. Test as Follows:
a. Alkalinity (pH): ASTM F710.
b. Internal Relative Humidity: ASTM F2170.
c. Moisture Vapor Emission: ASTM F1869.
2. Obtain instructions if test results are not within limits recommended by tiling material manufacturer and setting material manufacturer.
3. Follow moisture and alkalinity remediation procedures in Section 090561.
E. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

A. Protect surrounding work from damage.
B. Vacuum clean surfaces and damp clean.
C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
D. Provide crack isolation membrane as required.

E. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.

F. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.3 INSTALLATION - GENERAL

A. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.19 , manufacturer's instructions, and current TCNA (HB) recommendations.

B. Lay tile pattern as indicated on drawings. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install ceramic accessories rigidly in prepared openings.

G. Install non-ceramic trim in accordance with manufacturer's instructions.

H. Install thresholds where indicated.

I. Sound tile after setting. Replace hollow sounding units.

J. Keep control and expansion joints free of mortar, grout, and adhesive.

K. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

L. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

M. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

N. Install movement joints in accordance with TCNA (HB) Method EJ171F.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS

A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.

1. Use uncoupling membrane under all tile unless other underlayment is indicated.
2. Where waterproofing membrane is indicated, install in accordance with TCNA (HB) Method F122, with latex-Portland cement grout.
3. Where epoxy bond coat and grout are indicated, install in accordance with TCNA (HB) Method F131.
4. Where epoxy or furan grout is indicated, but not epoxy or furan bond coat, install in accordance with TCNA (HB) Method F115.

B. Install tile-to-tile floor movement joints in accordance with TCNA (HB) Method EJ171F.

3.5 INSTALLATION - WALL TILE

A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244, using membrane at toilet rooms.

B. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thin-set with dry-set or latex-Portland cement bond coat.

C. Install movement joints in accordance with TCNA (HB) Method EJ171F.

3.6 CLEANING

A. Clean tile and grout surfaces.

3.7 PROTECTION

A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

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SECTION 095100
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 053100 - Steel Decking: Placement of special anchors or inserts for suspension system.

C. Section 07 92 00 - Joint Sealants

D. Section 233700 - Air Outlets and Inlets: Air diffusion devices in ceiling.

E. Division 23 - Mechanical Systems- Air outlets and Inlets.

F. Section 265100 - Interior Lighting: Light fixtures in ceiling system.

G. Division 26 -Electrical Systems, Wiring and Raceways: Interior Lighting

H. Section 275116 - Public Address Systems: Speakers in ceiling system.

I. Section 284600 - Fire Detection and Alarm: Fire alarm components in ceiling system.

1.3 REFERENCE STANDARDS

A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.

C. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method 2022.

D. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings 2022.

E. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels 2019.

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

G. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials 2020.

H. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions 2022.

I. ASTM E1264 - Standard Classification for Acoustical Ceiling Products 2022.

J. ASTM E1414/E1414M - Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum 2021a.

K. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth 2019.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Do not install acoustical units until after interior wet work is dry.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on suspension system components and acoustical units.

C. Evaluation Service Reports: Show compliance with specified requirements.

D. Samples: Submit two full size samples illustrating material and finish of acoustical units.

E. Samples: Submit two samples each, 6 inches (152 mm) long, of suspension system main runner, cross runner, and perimeter molding.

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

G. Manufacturer's Qualification Statement.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Acoustical Units: One box of each type of ceiling specified..

1.6 QUALITY ASSURANCE

A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

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

1.7 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F (16 degrees C), and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acoustic Tiles: Type [ACT]; **Basis of Design: Armstrong World Industries; Refer to drawing I000 Finish Schedule**

1. Substitutions: See Section 016000-Product Requirements
2. CertainTeed Corporation; www.certainteed.com/#sle.
3. USG Corporation; www.usg.com/ceilings/#sle.

B. Suspension Systems: **Basis of Design:** Armstrong World Industries; www.armstrongceilings.com/#sle **(Refer to drawing I000 Finish Schedule)**

1. Substitutions: See Section 016000-Product Requirements.
2. CertainTeed Corporation; www.certainteed.com/#sle.
3. USG Corporation; www.usg.com/ceilings/#sle.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Rating: Determined in accordance with test procedures in ASTM E119.

B. Seismic Performance: Ceiling systems designed to withstand the effects of earthquake motions determined according to ASCE 7 for Seismic Design Category D, E, or F and complying with the following:

1. Local authorities having jurisdiction.

2.3 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A- see Finish Schedule.

B. Acoustical Panels**(ACT-1, ACT-2)**, Refer to drawing I000 Finish Schedule: Wet-formed mineral fiber with DuraBrite acoustically transparent membrane, with the following characteristics:

1. Classification: ASTM E1264 Type IV.
   a. Form: 2, water felted.
   b. Pattern: "E" - lightly textured.
2. Size: As indicated on I000 Finish Schedule.
3. Thickness: 3/4 inch (19 mm).
4. Light Reflectance: .88 percent, determined in accordance with ASTM E1264.
5. NRC Range: .80 min , determined in accordance with ASTM E1264.
6. Ceiling Attenuation Class (CAC): 35min, determined in accordance with ASTM E1264.
7. Panel Edge: Square.
8. Color: White.
9. Suspension System: Exposed grid.

10. Products: **Basis of Design; Refer to drawing I000 Finish Schedule**
    a. Substitutions: See Section 016000 - Product Requirements.

2.4 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.

B. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.
   1. Materials:
      a. Steel Grid: ASTM A653/A653M, G30 coating, unless otherwise indicated.

C. Exposed Suspension System: Hot-dipped galvanized steel grid with aluminum cap.
   1. Structural Classification: Intermediate-duty, when tested in accordance with ASTM C635/C635M.
   2. Profile: Tee; 15/16 inch (24 mm) face width.
   3. Finish: Baked enamel.
   4. Color: White.
   5. Products: **Basis of Design:**
      a. Armstrong World Industries, Inc; Prelude XL Suspension System: www.armstrongceilings.com/#sle..
      b. Substitutions: See Section 016000 - Product Requirements.

D. Enclosure for Recessed Ceiling Fixtures: Mineral fiber insulation box enclosure with foil facing on exterior side for placement over recessed ceiling light fixture; flame spread index of 25 and smoke development index of 0 (zero) when tested in accordance with ASTM E84.
   1. Light Fixture Size: As indicated on drawings.

2.5 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Hanger Wire: 12-gage 0.08 inch (2 mm) galvanized steel wire.

C. Seismic Clips: Manufacturer's standard clips for seismic conditions and to suit application.

D. Perimeter Moldings: Same metal and finish as grid.
   1. Size: As required for installation conditions and specified Seismic Design Category.
   2. Angle Molding: L-shaped, for mounting at same elevation as face of grid.

3. Acoustical Sealant For Perimeter Moldings: Non-hardening, non-skinning, for use in conjunction with suspended ceiling system.

E. Acoustical Insulation: ASTM C665 friction fit type, unfaced batts.
   1. Thickness: 2 inch (51 mm).

F. Acoustical Sealant: for Perimeter Molding: Non-hardening, non-skinning. for use in conjucntion with suspended ceiling system as required.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.2 PREPARATION

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

3.3 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

E. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

F. Comply with International Building code for seismic Catagory B.

G. Comply with CISCA "Guidelines for Seismic Restraint of Direct-HungSuspended Ceiling Assemblies: Seismin Zones 0-2".

H. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

I. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

J. Support fixture loads using supplementary hangers located within 6 inches (152 mm) of each corner, or support components independently.

K. Do not eccentrically load system or induce rotation of runners.

3.4 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:

1. Make field cut edges of same profile as factory edges.

F. Where round obstructions occur, provide preformed closures to match perimeter molding.

G. Install hold-down clips on each panel to retain panels tight to grid system; comply with fire rating requirements.

3.5 ADJUSTING AND CLEANING

A. Replace damaged and broken units.

B. Clean exposed surfaces of ceilings units, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.6 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet (3 mm in 3 m).

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 096500
RESILIENT FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient tile flooring.

C. Resilient base.

D. Resilient stair accessories.

E. Installation accessories.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 033000 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied resilient flooring.

C. Section 090561 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

D. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

E. Section 260526 - Grounding and Bonding for Electrical Systems: Grounding and bonding of static control flooring to building grounding system.

F. Section 260539 - Underfloor Raceways for Electrical Systems: Electrical floor cover plates for installation of resilient flooring specified in this section.

1.3 REFERENCE STANDARDS

A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source 2019a, with Editorial Revision (2020).

B. ASTM F150 - Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring 2006 (Reapproved 2018).

C. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring 2022.

D. ASTM F970 - Standard Test Method for Measuring Recovery Properties of Floor Coverings after Static Loading 2022.

E. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile 2004 (Reapproved 2018).

F. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing 2004 (Reapproved 2021).

G. ASTM F1344 - Standard Specification for Rubber Floor Tile 2021a.

H. ASTM F1861 - Standard Specification for Resilient Wall Base 2021.

I. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride 2023.

J. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing 2019.

K. ASTM F2169 - Standard Specification for Resilient Stair Treads 2015 (Reapproved 2020).

L. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source 2023.

M. NSF 332 - Sustainability Assessment for Resilient Floor Coverings 2022.

N. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings 2018.

O. UL 2824 - GREENGUARD Certification Program Method for Measuring Microbial Resistance from Various Sources Using Static Environmental Chambers Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Verification Samples: Submit two samples, 12 by 12 inch (30 cm by 30 cm) in size illustrating color and pattern for each resilient flooring and accessory product specified.

D. Verification Samples: Submit two samples, full sized, illustrating color and profile for each reisilient wall base and accessory product specified.

E. Sustainable Design Submittal: Submit VOC content documentation for flooring and adhesives.

F. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

G. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of subfloor is acceptable.

H. Manufacturer's Qualification Statement.

I. Installer's Qualification Statement.

J. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

K. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Flooring Material: Quantity equivalent to 5 percent of each type and color.
3. Extra Wall Base: Quantity equivalent to 5 percent of each type and color.
4. Extra Stair Materials: Quantity equivalent to 5 percent of each type and color.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing concrete slab moisture testing and inspections of the type specified in this section.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space. Cartons to be stored on a flat, dry, level surface.

C. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).

D. Protect roll materials from damage by storing on end.

E. Do not double stack pallets.

1.7 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

PART 2 PRODUCTS

2.1 SHEET FLOORING

A. Refer to Interior Drawings for Manuafcturer, Product and Color.

B. Vinyl Sheet Flooring: Homogeneous, with color and pattern throughout full thickness.

   a. Manufacturers: **Basis of Design: Refer to I000 Finish Schedule**

      1) Substitutions: See Section 016000 - Product Requirements.

   b. Minimum Requirements: Comply with ASTM F1913.

   c. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.

   d. Thickness: Refer to I000 Finish Schedule

   e. Sheet Width: 77 inch (1960 mm)

   f. Static Load Resistance: 250 psi (1725 kPa) minimum, when tested as specified in ASTM F970.

g. Seams: Heat welded.

h. Integral coved base 4", as required on Interior Drawings.

i. Pattern: Refer to I000 Finish Schedule.

j. Color: Refer to I000 Finish Schedule

C. Welding Rod: Solid bead in material compatible with flooring, produced by flooring manufacturer for heat welding seams, and in color matching field color.

2.2 RESILIENT TILE FLOORING

A. Refer to Interior Drawings and Finish Schedule for Manufacturer, Product and Color.

B. Vinyl Composition Tile [VCT]: Homogeneous, with color extending throughout thickness.

1. Manufacturers: **Basis of Design: Refer to I000 Finish Schedule**
   a. Substitutions: See Section 016000 - Product Requirements.
2. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to type specified.
3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
4. Size: Refer to I000 Finish Schedule
5. Thickness: Refer to I000 Finish Schedule
6. Pattern: Rfer to I000 Finish Schedule.
7. Color: Refer to I000 Finish Schedule

C. Vinyl Tile [LVT]: Printed film type, with transparent or translucent wear layer.

1. Manufacturers: **Basis of Design: Refer to I000 Finish Schedule**
   a. Substitutions: See Section 016000 - Product Requirements.
2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
4. Plank Tile Size: Refer to I000 Finish Schedule
5. Wear Layer Thickness: Refer to I000 Finish Schedule
6. Total Thickness: Refer to I000 Finish Schedule
7. Pattern: Refer to Interior Drawings.
8. Color: Refer to I000 Finish Schedule.

D. Rubber Tile [RT]: Homogeneous, color and pattern throughout thickness.

1. Manufacturers: **Basis of Design, Refer to drawing I000 Finish Schedule**

a. Substitutions: See Section016000-Product Requirements.

2. Minimum Requirements: Comply with ASTM F1344, of Class corresponding to type specified.
3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
4. Size: Refer to drawing I000 Finish Schedule
5. Total Thickness: Refer to drawing I000 Finish Schedule
6. Texture: Hammered.
7. Pattern: Refer to I000 Finish Schedule
8. Color: Refer to I000 Finish Schedule

2.3 STAIR COVERING

A. Refer to Interior Drawings for Manufacturer, Product, and Color.

B. Stair Treads with Integral Risers [RST]: Rubber; full height of riser, full width and depth of tread in one piece; tapered thickness.

1. Manufacturers: **Basis of Design: Tarkett. Refer to drawing I000 Finish Schedule**
2. Substitutions: See Section016000-Product Requirements.
3. Nominal Thickness: 0.1875 inch (4.75 mm).
4. Nosing: Square.
5. Striping: 2 inch (24 mm) wide contrasting color abrasive strips; Refer to I000 Finish Schedule.
6. Tread Texture: Raised.
7. Color: As indicated on I000 Finish Schedule.

2.4 RESILIENT BASE

A. Refer to Interior Drawings for Manufacturer, Product, and Color.

B. Resilient Base [RB]: ASTM F1861, Type TV, vinyl, thermoplastic. **Manufacturer**: **Basis of design, Refer to I000 Finish Schedule**

1. Substitutions: See Section016000-Product Requirements.
   a. Burke Flooring; Commercial Wall Base - TS: www.burkeflooring.com/#sle.
   b. Armstrong Flooring: www.armstrongflooring/#sle.
   c. Roppe Corp: www.roppe.com/#sle.
   d. Substitutions: See Section 016000 - Product Requirements.
2. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
3. Height: Refer to I000 Finish Schedule
4. Thickness: 0.125 inch (3.2 mm).

5. Finish: Matte.
6. Length: Roll.
7. Color: Refer to drawing I000 Finish Schedule
8. Accessories: Premolded external corners and internal corners.

2.5 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.
   1. VOC Content Limits: As specified in Section 016116.

C. Adhesive for Rubber Flooring: As recommended by manufacturer

D. Adhesive for Vinyl Flooring: As recommended by manufacturer

E. Moldings, Transitions, Nosings, and Edge Strips: As indicated on Interior Drawings and Finish Schedule.
   1. Manufacturers: **Basis of Design, Refer to drawing I000 Finish Schedule**
      a. Roppe Flooring
      b. Armstrong Flooring
      c. Substitutions: See Section 016000 - Product Requirements.

F. Filler for Coved Base: Plastic.

G. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
   1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
   2. Follow moisture and alkalinity remediation procedures in Section 090561.

D. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

A. Remove existing resilient flooring and flooring adhesives; follow the recommendations of RFCI (RWP).

B. Prepare floor substrates for installation of flooring in accordance with Section 090561.

C. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

D. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with portland cement based subfloor filler and leveling compounds to achieve smooth, flat, hard surface.

E. Thoroughly sand existing terrazzo substrate to remove all glaze and waxes.

F. Prohibit traffic until filler is fully cured.

G. Clean substrate.

H. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.3 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

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

C. Adhesive-Applied Installation:

1. Spread only enough adhesive to permit installation of materials before initial set.
2. Place copper grounding strip in conductive adhesive and apply additional adhesive to top side of strip before installing static control flooring. Allow strip to extend beyond flooring in accordance with static control flooring manufacturer's instructions. Refer to Section 260526 for grounding and bonding to building grounding system.
3. Fit joints and butt seams tightly.
4. Set flooring in place, press with heavy roller to attain full adhesion.

D. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

E. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

1. Metal Strips: Attach to substrate before installation of flooring using stainless steel screws.
2. Resilient Strips: Attach to substrate using adhesive.

F. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints. Provide flexible silicone joints where resilient flooring is adjacent to ceramic wall tile.

G. Install flooring in recessed floor access covers, maintaining floor pattern.

H. At movable partitions, install flooring under partitions without interrupting floor pattern.

3.4 INSTALLATION - SHEET FLOORING

A. Lay flooring with joints and seams in accordance with seaming plan. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.

B. Cut sheet at seams in accordance with manufacturer's instructions.

C. Seal seams by heat welding where indicated.

D. No "Sharpie" type indelible or permanent type markers are to be used for marking of floor surfaces for layout or installation of resilient sheet flooring.

E. Coved Base: Install as detailed on drawings, using coved base filler as backing at floor to wall junction. Extend sheet flooring vertically to height indicated, and cover top edge with metal cap strip.

3.5 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

B. Lay flooring with joints and seams parallel to building lines to produce symmetrical pattern.

C. Install square tile to in pattern indicated on Interior Drawing and Finish Schedule. Allow minimum 1/2 full size tile width at room or area perimeter.

D. Install plank tile with a random offset of at least 6 inches (152 mm) from adjacent rows, unless otherwise indicated on floor patterning plan.

3.6 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm) between joints.

B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.7 INSTALLATION - STAIR COVERINGS

A. Install stair coverings in one piece for full width and depth of tread.

B. Adhere over entire surface. Fit accurately and securely.

3.8 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.9 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

B. Install Ram Board with Vapor Cure Seam Tape for protection after installation

END OF SECTION

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SECTION 096623

RESINOUS MATRIX TERRAZZO FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Epoxy matrix terrazzo with ground and polished finish.

B. Divider strips.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Restrictions.

B. Section 079200 - Joint Sealants: Sealing joints between terrazzo work and adjacent construction and fixtures.

C. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.3 REFERENCE STANDARDS

A. NTMA (GRAD) - Aggregate Gradation Standards Current Edition.

B. NTMA (EPOXY) - Epoxy Terrazzo Specifications Current Edition.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures.

B. Product Data: Provide data for divider strips, control joint strips, and sealer; include printed copy of current NTMA recommendations for type of terrazzo specified.

C. Shop Drawings: Indicate divider strip layout, and details of adjacent components. For precast units, detail profile and anchorage requirements.

D. Samples: Submit two samples, 2 inch (50 mm) by 2 inch (50 mm) in size illustrating color, chip size and variation, chip gradation, matrix color, and typical divider strip.

E. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement.

H. Cleaning and Maintenance Data: Include procedures for stain removal, stripping, and sealing.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with NTMA recommendations as posted at their web site at www.ntma.com.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section.

1. Minimum five years of documented experience.
2. Associate member firm of the National Terrazzo and Mosaic Association, Inc.

C. Installer Qualifications: Company specializing in performing the type of work specified in this section.
1. Minimum five years of documented experience.
2. Approved by matrix manufacturer.
3. Contractor member of the National Terrazzo and Mosaic Association, Inc.

1.6 MOCK-UP

A. Construct mock-up of terrazzo illustrating appearance of finished work in each configuration required. Size mock-up to be not less than 3 by 3 feet (1 by 1 m).

B. Locate where directed.

C. Mock-up may remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store terrazzo materials in a dry, secure area.

B. Maintain minimum temperature of 60 degrees F (16 degrees C).

C. Keep products away from fire or open flame.

1.8 FIELD CONDITIONS

A. Do not install terrazzo when temperature is below 50 degrees F (10 degrees C) or above 90 degrees F (32 degrees C).

B. Maintain temperature within specified range 24 hours before, during, and 72 hours after installation of flooring.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design - Resinous Matrix Terrazzo Flooring: Terrazzo & Marble Supply Companies; Terroxy Resin Systems: www.tmsupply.com/#sle.

B. Approved Equal.

C. Substitutions: See Section 016000 - Product Requirements.

2.2 EPOXY MATRIX TERRAZZO APPLICATIONS

A. Floors:
1. Thickness: As indicated on Drawings.
2. Color(s): To be selected by Architect.
3. Aggregate Type and Mix: To be selected by Architect.

B. Wall Base:

1. Thickness: Same as floors.
2. Thickness: 3/8 inch (9 mm), minimum.
3. Style: Coved.
4. Color(s): Same as adjacent floor.
5. Aggregate Type and Size: Same as floors.

2.3 MATERIALS

A. Epoxy Matrix Terrazzo: Manufacturer's standard recommended for use indicated and in color as indicated in Finish Schedule.

B. Aggregate: Type as indicated; sized in accordance with NTMA aggregate gradation standards; color(s) as indicated.

C. Finishing Grout: Epoxy, color to match terrazzo matrix.

2.4 ACCESSORIES

A. Divider Strips: 1/8 inch (3 mm) thick zinc exposed top strip, zinc coated steel concealed bottom strip, with anchoring features.

B. Divider and Control Joint Strip Height: To suit thickness of terrazzo topping, with allowance for grinding.

C. Sealer: Colorless, non-yellowing, penetrating liquid type to completely seal matrix surface; not detrimental to terrazzo components.

1. Products:
   a. Terrazzo & Marble Supply Companies; T-Rx: www.tmsupply.com/#sle.
   b. Substitutions: See Section 016000 - Product Requirements.

D. Primer: Manufacturer's standard recommended for use indicated and in color required for mix indicated..

E. Flashpatching material as recommended by Terrazzo Manufacturer.

F. Substrate Crack Suppression Membrane: Product of terrazzo-resin manufactuer, having minmum 120 percent elongation potential according to ASTM D412.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive terrazzo.

B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for terrazzo flooring installation by testing for moisture and alkalinity (pH).
   1. Obtain instructions if test results are not within limits recommended by terrazzo flooring manufacturer.

3.2 PREPARATION

A. Clean substrate of foreign matter.
B. Prepare concrete subfloor by mechanically abrading surface in accordance with manufacturer's instructions.
C. Substrate Crack Suppression Membrane: Install to isolate and suppress substrate cracks according to manufacurer's written instructions.
D. Apply primer in accordance with manufacturer's instructions.

3.3 INSTALLATION

A. Install divider strips according to pattern approved on shop drawings.
B. Place terrazzo mix over substrate to thickness indicated.

3.4 FINISHING

A. Finish terrazzo to NTMA requirements.
B. Grind terrazzo surfaces with power disc machine; sequence with coarse to fine grit abrasive, using a wet method or using a dry grinder with vacuum to control dust.
C. Apply grout to fill voids exposed from grinding.
D. Remove grout coat by grinding, using a fine grit abrasive.

3.5 TOLERANCES

A. Maximum Variation from Flat Surface: 1/4 inch in 10 feet (6 mm in one m).

3.6 CLEANING

A. Scrub and clean terrazzo surfaces with neutral pH cleaner in accordance with manufacturer's instructions. Let dry.
B. Immediately after terrazzo has dried, apply sealer in accordance with manufacturer's instructions.
C. Polish surfaces in accordance with manufacturer's instructions.

3.7 PROTECTION

A. Protect finished terrazzo from damage due to subsequent construction until Date of Substantial Completion.

END OF SECTION

SECTION 096813
TILE CARPETING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Carpet tile, fully adhered.

B. Removal of existing finished flooring.

C. Matching roll carpet for direct glue installation on base and stairs.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 017419 - Construction Waste Management and Disposal: Reclamation/Recycling of new carpet tile scrap and removed carpet tile.

C. Section 033000 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied flooring.

D. Section 090561 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

E. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.3 REFERENCE STANDARDS

A. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials 2016 (Reapproved 2021).

B. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source 2019a, with Editorial Revision (2020).

C. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring 2022.

D. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride 2023.

E. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes 2019a.

F. CRI 104 - Standard for Installation of Commercial Carpet 2015.

G. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source 2023.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Samples: Submit two full sized carpet tiles illustrating color and pattern design for each carpet color selected.

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

E. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement.

H. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed, but not less then 1 bo.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.6 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Tile Carpeting: **Basis of Design: Refer to drawing I000 Finish Schedule**

B. Substitutions: See Section016000-Product Requirements.

1. Interface, Inc.
2. Tarkett Flooring
3. Mohawk Group: www.mohawkgroup.com/#sle.

2.2 MATERIALS

A. Tile Carpeting Type [CPT-1]; Solution Dyed, Multi-Level Pattern Loop Carpet Tile

1. Product: **Basis of Design, Refer to drawing I000 Finish Schedule**
2. Tile Size: 24" x 24", nominal.

3. Thickness: .219 inch (6 mm)
4. Color: Refer to drawing I000 Finish Schedule.
5. Pattern: Refer to drawing I000 Finish Schedule.
6. Critical Radiant Flux: Minimum of 0.45 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
7. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
8. Gauge: 1/12 inch (13 mm).
9. Stitches: [8] per inch.
10. Tufted Weight: 16 oz/sq ft. (542.5 gm/sq m).
11. Primary Backing Material: Synthetic
12. Secondary Backing Material: Ecoworx Tile.
13. Protective Treatments: SSP Shaw Soil Protetion

B. Tile Carpeting Type [CPT-2]; Solution Dyed, Multi-Level Pattern Loop Carpet Tile

1. Product: **Basis of Design, Refer to drawing I000 Finish Schedule**
2. Tile Size: 24" x 24", nominal.
3. Thickness: .226 inch.
4. Color: [Refer to drawing I000 Finish Schedule].
5. [Refer to drawing I000 Finish Schedule].
6. Critical Radiant Flux: Minimum of 0.45 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
7. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
8. Gauge: [1/10] inch ([3] mm).
9. Stitches: [10] per inch.
10. Tufted Weight: [16 oz/sq ft.] ([542.5] gm/sq m).
11. Primary Backing Material: Synthetic
12. Secondary Backing Material: [Ecoworx Tile].
13.

C. Tile Carpeting Type [WOC-1]; Solution Dyed, Multi-Level Pattern Loop Entryway Carpet Tile

1. Product: **Basis of Design, Refer to drawing I000 Finish Schedule**
2. Tile Size: 24" x 24", nominal.
3. Thickness: .127 inch.
4. Pattern: Refer to drawing I000 Finish Schedule.
5. Critical Radiant Flux: Minimum of 0.45 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.

6. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
7. Gauge: 1/12 inch (13 mm).
8. Stitches: [9] per inch.
9. Tufted Weight: 28 oz/sq ft. (542.5 gm/sq m).
10. Primary Backing Material: Synthetic
11. Secondary Backing Material: Ecoworx Tile.
12. Protective Treatments: SSP Shaw Soil Protection

2.3 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge Strips: Rubber, color as selected by Architect.

C. Stair Nosing: As specified in Section 096500.

D. Adhesives:

1. Compatible with materials being adhered; maximum VOC content as specified in Section 016116.

E. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet tile.

C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.

D. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).

1. Test in accordance with Section 090561.
2. Test as Follows:
   a. Alkalinity (pH): ASTM F710.
   b. Internal Relative Humidity: ASTM F2170.
   c. Moisture Vapor Emission: ASTM F1869.
3. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

E. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

A. Remove existing finish flooring, where applicable.

B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

C. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.

D. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

E. Vacuum clean substrate.

3.3 INSTALLATION

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile as indicated on Interior Drawings.

F. Fully adhere carpet tile to substrate.

G. Trim carpet tile neatly at walls and around interruptions.

H. Complete installation of edge strips, concealing exposed edges.

3.4 INSTALLATION ON STAIRS

A. Use one piece of carpet for each tread and the riser below. Apply seam adhesive to all cut edges.

B. Lay carpet with pile direction in the length of the stair.

C. Adhere carpet tight to stair treads and risers.

3.5 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

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SECTION 097200
WALL COVERINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Writable Surface wall covering

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 099123 - Interior Painting: Preparation and priming of substrate surfaces.

1.3 REFERENCE STANDARDS

A. ASTM D1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Coating Systems 2020.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on wall covering and adhesive.

C. Samples: Submit one samples of wall covering, illustrating color, finish, and texture.

D. Test Reports: Indicate verification of flame and smoke ratings, when tested by UL.

E. Manufacturer's Installation Instructions: Indicate special procedures.

F. Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.

G. Manufacturer's Qualification Statement.

H. Installer's Qualification Statement.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Wall Covering Materials: 25 linear feet (8 linear m) of each color and pattern of wall covering; store where directed.
3. Package and label each roll by manufacturer, color and pattern, and destination room number.

1.5 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Inspect roll materials at arrival on site, to verify acceptability.

B. Protect packaged adhesive from temperature cycling and cold temperatures.

C. Do not store roll goods on end.

1.7 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the adhesive or wall covering product manufacturer.

B. Maintain these conditions 24 hours before, during, and after installation of adhesive and wall covering.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surfaces.

PART 2 PRODUCTS

2.1 WALL COVERINGS

A. General Requirements:

1. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.
2. Chemical and Stain Resistance: No visible staining or discoloration and no damage to surface texture when tested in accordance with ASTM D1308.

B. Products: Refer to Interior Drawings for Manufacturer, Product and Color.

C. Writable Surface Wall Covering: WS: Magnetic Dry-Erase Wallcovering

1. Manufacturers: **Basis of Design; Refer to I000 Finish Schedule**
2. Composition: Woven backed, ferrous sheet bonded with white pigmented vinyl and capped with semi-gloss, dry erase film
3. Provide manufacturer's included trim, tray, and accessories.

D. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.

E. Termination Trim: Architect to select from architects full offering

F. Substrate Filler: As recommended by adhesive and wall covering manufacturers; compatible with substrate.

G. Substrate Primer and Sealer: Alkyd enamel type.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate surfaces are prime painted and ready to receive work, and comply with requirements of wall covering manufacturer.

B. Measure moisture content of surfaces using an electronic moisture meter. Do not apply wall coverings if moisture content of substrate exceeds level recommended by wall covering manufacturer.

C. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet (3 mm in 3 m) nor vary at a rate greater than 1/16 inch/ft (1.5 mm/300 mm).

3.2 PREPARATION

A. Fill cracks in substrate and smooth irregularities with filler; sand smooth.

B. Wash impervious surfaces with tetra-sodium phosphate, rinse and neutralize; wipe dry.

C. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

D. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove existing coatings that exhibit loose surface defects.

E. Marks: Seal with shellac those that may bleed through surface finishes.

F. Apply one coat of primer sealer to substrate surfaces. Allow to dry. Lightly sand smooth.

G. Vacuum clean surfaces free of loose particles.

3.3 INSTALLATION

A. Apply adhesive and wall covering in accordance with manufacturer's instructions.

B. Apply adhesive to wall surface immediately prior to application of wall covering.

C. Use wall covering in roll number sequence.

D. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.

E. Apply wall covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface.

F. Butt edges tightly.

G. Overlap adjacent panels as recommended by manufacturer.

H. Do not seam within 2 inches (50 mm) of internal corners or within 6 inches (150 mm) of external corners.

I. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.

J. Do not install wall covering more than 1/4 inch (6 mm) below top of resilient base.

K. Cover spaces above and below windows, above doors, in pattern sequence from roll.

L. Apply wall covering to electrical wall plates prior to replacing.

M. Wall covering is required behind fin tube cabinets.

N. Where wall covering tucks into reveals, or metal wallboard or plaster stops, apply with contact adhesive within 6 inches (150 mm) of wall covering termination. Ensure full contact bond.

O. Install termination trim.

P. Remove excess adhesive while wet from seam before proceeding to next wall covering sheet. Wipe clean with dry cloth.

3.4 CLEANING

A. Clean wall coverings of excess adhesive, dust, dirt, and other contaminants.

B. Reinstall wall plates and accessories removed prior to work of this section.

3.5 PROTECTION

A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 097220

DIGITALLY PRINTED VINYL WINDOW FILM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Digitally printed vinyl wall graphic

1.2 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Preparation and priming of substrate surfaces.

1.3 REFERENCE STANDARDS

A. ASTM D1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Coating Systems 2020.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

C. ASTM F793/F793M - Standard Classification of Wall Coverings by Use Characteristics 2020.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on window film.

C. Shop Drawings: Provide an elevation of each installation, showing colored graphic and dimensions.

D. Provide Digital & Physical strikeoffs to scale

E. Test Reports: Indicate verification of flame and smoke ratings, when tested by UL.

F. Manufacturer's Installation Instructions: Indicate special procedures.

G. Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.

H. Manufacturer's Qualification Statement.

I. Installer's Qualification Statement.

J. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Documentation of each graphic including size, color and graphic..
3. Package and label each roll by manufacturer, color and pattern, and destination room number.

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 and with at least three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Inspect materials at arrival on site, to verify acceptability.

B. Protect packaged adhesive from temperature cycling and cold temperatures.

C. Do not store roll goods on end.

1.7 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the adhesive or wall covering product manufacturer.

B. Maintain these conditions 24 hours before, during, and after installation of adhesive and wall covering.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surfaces.

PART 2 PRODUCTS

2.1 VINYL WALL COVERINGS & WINDOW FILM

A. General Requirements:

1. Surface Burning Characteristics: Flame spread/Smoke developed index of 20/85, maximum, when tested in accordance with ASTM E84.
2. Chemical and Stain Resistance: No visible staining or discoloration and no damage to surface texture when tested in accordance with ASTM D1308.

B. Window Film:Polymeric Vinyl Film.

1. Total Thickness: 3 mil.
2. Color: Refer to I001 Wall Graphics Schedule
3. Light Transmission: Refer to I001 Wall Graphics Schedule
4. Adhesive: Pressure-sensitive
5. Graphic: Custom graphic to be produced from image provided by Owner. Architect to supply vector image(s) to manufacturer.
6. Manufacturer's: **Basis of Design: Refer to I001 Wall Graphics Schedule**
   a. Substitutions: See Section016000-Product Requirements.

C. Wall Covering: WC, complying with the following:

1. Total Weight: [35] oz/sq yd.
2. Color: As indicaited on I001 Wall Graphics Schedule.
3. Pattern: As indicaited on I001 Wall Graphics Schedule.

4. Graphic: Custom graphic to be produced from image provided by Owner. Architect to supply vector image(s) to manufacturer.
5. Manufacturer's: Basis of Design: Refer to I001 Wall Graphics Schedule
    a. Substitutions: See Section016000-Product Requirement

D. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.

E. Wall Liner:

1. Products:
    a. Stronghold by Wolf Gordon; Basis-of-Design
    b. Provide liner and adhesive recommended by manufacturer for substrate.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrate surfaces are ready to receive work, and comply with requirements of window film manufacturer.

B. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet (3 mm in 3 m) nor vary at a rate greater than 1/16 inch/ft (1.5 mm/300 mm).

3.2 PREPARATION

A. Wash surfaces and wipe dry.

B. Surface Appurtenances: Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

C. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove existing coatings that exhibit loose surface defects.

D. Vacuum clean surfaces free of loose particles.

3.3 INSTALLATION

A. Apply in accordance with manufacturer's instructions; thoroughly spray and soak the glass surface and the adhesive side of the film with the water mixture.

B. Install the film by the top corners, keeping it straight and level. Place the wet film onto the wet surface, keeping the top edge level, letting the film hang over the edges of the frame on all sides.

C. Move, slide and reposition the film as needed.

D. Wet the outside of the film with the spray, then slide a squeegee over the wet film to smooth out and press the film against the glass. Squeegee from the center moving out, pushing bubbles and wrinkles out as you go

E. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.

F. Apply window film smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface.

G. Overlap adjacent panels as recommended by manufacturer.

H. Do not seam within 2 inches (50 mm) of internal corners or within 6 inches (150 mm) of external corners.

I. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.

3.4 CLEANING

A. Clean of excess adhesive, dust, dirt, and other contaminants.

B. Reinstall wall plates and accessories removed prior to work of this section.

3.5 PROTECTION

A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 098430

SOUND-ABSORBING WALL AND CEILING UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sound-absorbing panels.

B. Mounting accessories.

1.2 RELATED REQUIREMENTS

A. Section 095100 - Acoustical Ceilings: Ceiling suspension system.

B. Section 099123 - Interior Painting.

1.3 REFERENCE STANDARDS

A. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method 2022.

B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels 2019.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's printed data sheets for products specified.

C. Shop Drawings: Fabrication and installation details, panel layout.

D. Verification Samples: Fabricated samples of each type of panel specified; 12 by 12 inch (305 by 305 mm), showing construction, edge details, and fabric colors.

E. Test Reports: Certified test data from an independent test agency verifying that panels meet specified requirements for acoustical and fire performance.

F. Manufacturer's qualification statement.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 016000 - Product Requirements, for additional provisions.
2. Extra Panels: Quantity equal to 5 percent of total installed, but not less than one of each type.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with at least three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect acoustical units from moisture during shipment, storage, and handling. Deliver in factory-wrapped bundles; do not open bundles until units are needed for installation.

B. Store units flat, in dry, well-ventilated space; do not stand on end.

C. Protect edges from damage.

PART 2 PRODUCTS

2.1 POLYESTER SOUND-ABSORBING UNITS

A. Manufacturers: Type [AWP]

1. Basis of Design: MDC Interior Solutions; MDC Zintra: www.mdcwall.com/#sle.
2. Substitutions: See Section 016000 - Product Requirements.
3. Panel Size: Refer to I000 Finish Schedule
4. Surface Pattern: Refer to I000 Finish Schedule
5. Surface Color: refer to I000 Finish Schedule
6. Edge: Square
7. Panel Thickness: 1inch.
8. Mounting: Back-mount with mechanical fasteners.

2.2 FABRICATION

A. General: Fabricate panels to sizes and configurations as indicated on drawings.

B. Tolerances: Fabricate to finished tolerance of plus or minus 1/16 inch (1.6 mm) for thickness, overall length and width, and squareness from corner to corner.

2.3 ACCESSORIES

A. Back-Mounting Accessories: Manufacturer's standard accessories for concealed support, designed to allow panel removal:

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates for conditions detrimental to installation of acoustical units. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install acoustical units in locations as indicated, following manufacturer's installation instructions.

B. Install mounting accessories and supports in accordance with shop drawings and manufacturer's written instructions.

C. Align panels accurately, with edges plumb and top edges level. Scribe to fit accurately at adjoining work and penetrations.

D. Install acoustical units to construction tolerances of plus or minus 1/16 inch (1.6 mm) for the following:

1. Plumb and level.
2. Flatness.

3.3 CLEANING

A. Clean sound-absorptive panels upon completion of installation from dust and other foreign materials, following manufacturer's instructions.

3.4 PROTECTION

A. Provide protection of installed acoustical panels until Date of Substantial Completion.

B. Replace panels that cannot be cleaned and repaired to satisfaction of the Architect.

END OF SECTION

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SECTION 099123
INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
2. Prime surfaces to receive wall coverings.
3. Mechanical and Electrical:
    a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
    b. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
    c. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

D. Do Not Paint or Finish the Following Items:

1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
2. Items indicated to receive other finishes.
3. Items indicated to remain unfinished.
4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
5. Marble, granite, slate, and other natural stones.
6. Floors, unless specifically indicated.
7. Ceramic and other tiles.
8. Glass.
9. Acoustical materials, unless specifically indicated.
10. Concealed pipes, ducts, and conduits.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 055100 - Metal Stairs: Shop-primed items.

C. Section 099600 - High-Performance Coatings.

1.3 DEFINITIONS

A. Comply with ASTM D16 for interpretation of terms used in this section.

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 D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications 2023.

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating 2023.

D. ASTM D4259 - Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application 2018.

E. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials 2020.

F. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association Current Edition.

G. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.

H. SSPC V1 (PM1) - Good Painting Practice: Painting Manual Volume 1 2016.

I. SSPC V2 (PM2) - Systems and Specifications: Steel Structures Painting Manual Volume 2 2021.

J. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).

K. SSPC-SP 2 - Hand Tool Cleaning 2018.

L. SSPC-SP 3 - Power Tool Cleaning 2018.

M. SSPC-SP 6 - Commercial Blast Cleaning 2007.

N. SSPC-SP 13 - Surface Preparation of Concrete 2018.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
2. MPI product number (e.g., MPI #47).

3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating color as specified on Interior Drawing and Finish Schedule
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

E. Tints/Colorants Shall Add No VOC

F. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Paint and Finish Materials: 1 gallon (4 L) of each color; from the same product run, store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience and approved by manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, batch date, coverage, surface preparation, drying time, cleanup requirements, color designation/number, VOC content, Environmental handling requirements, and instructions for application, handling, storing, unpacking, protecting, mixing and reducing.

C. Paint Materials: Store materials not in use in tightly covered containers at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions. Maintain containers in clean condition, free of foreign material and residue. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F (3 degrees C) above the dew point, or to damp or wet surfaces.

D. Application Temperatures for Paints: 50 degrees F (10 degrees C) Minimum and 95 degrees F Maximum for interiors unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:

1. **Basis of Design: Sherwin Williams - Refer to I000 Color & Finish Schedule**
2. Substitutions: See Section016000-Product Requirements.
3. PPG Paints: www.ppgpaints.com/#sle.
4. Benjamin Moore: www.benjaminmoore.com.
5. Pratt & Lambert paints; www.prattandlambert.com

C. Primer Sealers: Same manufacturer as top coats.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.

1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

4. Supply each paint material in quantity required to complete entire project's work from a single production run.
5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content: Comply with Section 016116.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

E. Colors:

1. Extend colors to surface edges; colors may change at any edge as directed by Architect.
2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

2.3 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete masonry units, wood, and plaster.

1. Two top coats and one coat primer.
2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.
   a. **Products: Basis fo Design: Refer to drawing I000 Finish Schedule**
      1) Sherwin-Williams ProMar 200 HP Series, Low Gloss Eg-Shel. (MPI #138)
      2) Sherwin-Williams ProMar 200 HP Series, Eg-Shel. (MPI #139)
      3) Sherwin-Williams ProMar 200 HP Series, Semi-Gloss (MPI #141)
3. Substitutions: Section016000-Product Requirements.
   a. PPG Paints Pure Performance Interior Latex, 9-310XI Series, Eggshell. (MPI #138)
   b. PPG Paints Pure Performance Interior Latex, 9-510XI Series, Semi-Gloss. (MPI #141)
   c. Pratt and Lambert Equivalent to ProMar 200 HP Series, Low Gloss Eg-Shel.....
   d. Pratt and Lambert Equivalent to ProMar 200 HP Series, Eg-Shel.....
4. Top Coat(s): Institutional Low Odor/VOC Interior Latex.
   a. **Products: Basis of Design: Refer to drawing I000 Finish Schedule**
      1) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Egg-Shell.
      2) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Semi-Gloss.
5. Substitutions: Section016000-Product Requirements.
   a. PPG Paints Pure Performance Interior Latex, 9-310XI Series, Eggshell. (MPI #144)
   b. PPG Paints Pure Performance Interior Latex, 9-510XI Series, Semi-Gloss. (MP! #147)
6. Top Coat Sheen:

a. Eggshell: MPI gloss level 3; use this sheen at all locations, unless noted otherwise.

7. Primer: As recommended by top coat manufacturer for specific substrate.

B. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete, concrete masonry units, and brick.

1. Two top coats and one coat primer.
2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.
   a. Products:
      1) Sherwin-Williams ProMar 200 HP Series, Semi-Gloss (MPI #141)
3. Top Coat Sheen:
   a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.
4. Primer: As recommended by top coat manufacturer for specific substrate.

C. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:

1. Medium duty applications include doors, door frames, railings, handrails, guardrails, and balustrades.
2. Two top coats and one coat primer.
3. Top Coat(s): Interior Epoxy-Modified Latex; MPI #115 or 215.
   a. Products: **Basis of Design: Sherwin-Williams Waterbased Catalyzed Epoxy, Semi-Gloss.**
      1) PPG Paints Aquapon WB EP Two-Component Waterborne Epoxy Coating, 98E-1/98E-100 Series, Semi-Gloss. (MPI #215)
      2) Pratt and Lambert Equivalent to SW Waterbased Catalyzed Epoxy....
      3) Substitutions: Section 016000 - Product Requirements.
4. Top Coat Sheen:
   a. Eggshell: MPI gloss level 3; use this sheen as scheduled.
   b. Semi-Gloss: MPI gloss level 5; use this sheen as scheduled.
5. Primer: As recommended by top coat manufacturer for specific substrate.

2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.

1. Interior Institutional Low Odor/VOC Primer Sealer; MPI #149.
   a. Products: **Basis of Design: Sherwin-Williams ProMar 200 Zero VOC Latex Primer**
   b. Substitutions: Section 016000 - Product Requirements.

2. Interior/Exterior Latex Block Filler; MPI #4.
    a. Products: **Basis of Design: Sherwin-Williams PrepRite Block Filler (MPI#4)**
    b. Substitutions: Section016000-Product Requirements.
3. Interior Rust-Inhibitive Water Based Primer; MPI #107.
    a. Products: **Basis of Design: Sherwin Williams Pro Industrial Pro-Cryl Universal Primer.**
    b. Substitutions: Section 016000 - Product Requirements.

2.5 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report, in writing, any conditions that may affect proper application, appearance, or perf ormance.

D. Where acceptibilty of substate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.

E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

F. Test shop-applied primer for compatibility with subsequent cover materials.

G. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
    1. Gypsum Wallboard: 12 percent.
    2. Plaster and Stucco: 12 percent.
    3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
    4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
    5. Concrete Floors and Traffic Surfaces: 8 percent.

H. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

I. Proceed with coating application only after unsatisfactory conditions have been corrected; applicati on of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete:

1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
2. Clean concrete according to ASTM D4258. Allow to dry.
3. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.

H. Masonry:

1. Remove efflorescence and chalk. Do not coat surfaces if moisture content, alkalinity of surfaces, or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
2. Prepare surface as recommended by top coat manufacturer.

I. Concrete Floors and Traffic Surfaces: Remove contamination, acid etch and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.

J. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

K. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

L. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.

M. Galvanized Surfaces:

1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
2. Prepare surface according to SSPC-SP 2.

N. Ferrous Metal:

1. Solvent clean according to SSPC-SP 1.

2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
3. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

O. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Use applicators and techniques suited for paint and substrate indicated.

D. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.

E. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

F. Do not paint over labels of independent testing agencies, door/frame rating lables, or equipment name, identification, performance rating, or nomenclature plates.

G. Do not paint exposed plywood backing panels for electrical and IT equipment.

H. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

I. Tint each undercoat a lighter shade to facilitate identication of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

J. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

K. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.

L. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

M. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

N. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

O. If undercoats or other conditions show through topcoat, apply additional topcoats until cured film has a uniform paint finish, color, and apperance.

P. Sand wood and metal surfaces lightly between coats to achieve required finish.

Q. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

R. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed in occupied spaces:
    a. Uninsulated metal piping.
    b. Pipe hangers and supports.
    c. Metal conduit.
    d. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
2. Paint portions of internal surfaces or metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

S. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection.

B. Contractor shall touch up and restore painted surfaces damaged by testing.

C. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

3.6 PROTECTION

A. Protect finishes until completion of project.

B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

C. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

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SECTION 099600
HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. High performance coatings.

B. Surface preparation.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 099123 - Interior Painting: Requirements for mechanical and electrical equipment surfaces.

1.3 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 D523 - Standard Test Method for Specular Gloss 2014 (Reapproved 2018).

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating 2023.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

E. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association Current Edition.

F. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual Current Edition.

G. SCAQMD 1113 - Architectural Coatings 1977, with Amendment (2016).

H. SSPC V1 (PM1) - Good Painting Practice: Painting Manual Volume 1 2016.

I. SSPC-SP 1 - Solvent Cleaning 2015, with Editorial Revision (2016).

J. SSPC-SP 2 - Hand Tool Cleaning 2018.

K. SSPC-SP 3 - Power Tool Cleaning 2018.

L. SSPC-SP 6 - Commercial Blast Cleaning 2007.

M. SSPC-SP 11 - Power-Tool Cleaning to Bare Metal 2020.

N. SSPC-SP 13 - Surface Preparation of Concrete 2018.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
2. MPI product number (e.g. MPI #47).
3. Cross-reference to specified coating system(s) product is to be used in and locations of application areas; include description of each system.
4. Manufacturer's installation instructions.

C. Samples: Submit two "draw down" samples 8 by 8 inch (203 by 203 mm) in size on rigid backing illustrating scheduled colors .
   1. Submit Samples for each type of coating system and in each color and gloss of topcoat indicated.
   2. Label each Sample for location and application area.

D. Manufacturer's Certificate: Certify that high-performance coatings comply with VOC limits specified.

E. Tints/Colorants Shall Add No VOC

F. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

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

B. Maintenance Data: Include cleaning procedures and repair and patching techniques.

C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Coating Materials: 1 gallon (4 liters) of each type and color.
   3. Label each container with manufacturer's name, product number, color number, and room names and numbers where used.

1.6 QUALITY ASSURANCE

A. Maintain one copy of each referenced document that applies to application on site.

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

C. Applicator Qualifications: Company specializing in performing the work of this section with minimum 3 years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in manufacturer's orignal sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, batch date, coverage, surface preparation, drying time, cleanup requirements, color designation/number, VOC content, Environmental handling requirements and instructions for application, handling, storing, unpacking, protecting, mixing and reducing.

C. Coating Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.8 FIELD CONDITIONS

A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.

C. Do not install materials when temperature is below 55 degrees F (13 degrees C) or above 90 degrees F (32 degrees C).

D. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.

E. Provide lighting level of 50 ft candles measured mid-height at substrate surface.

F. Restrict traffic from area where coating is being applied or is curing.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for bond to substrate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Only materials (primers, coatings, etc.) listed in the latest edition of the MPI Approved Product List (APL) are acceptable for use on this project.

B. Provide high performance coating products from the same manufacturer to the greatest extent possible.

C. High-Performance Coatings: **Basis of Design: Sherwin Williams - Refer to drawing I000 Finish Schedule**

1. Substitutions: Section016000-Product Requirements.
    a. PPG Paints: www.ppgpaints.com/#sle.
    b. Pratt & Lambert Paints; www.prattandlambert.com
    c. Benjamin Moore; www.benjaminmoore.com

2.

2.2 HIGH-PERFORMANCE COATINGS

A. MPI Standards: Provide products that comply with MPI standards indicated and are listed in "MPI Approved Products List."

B. Material Compatibility: Provide the following:

1. Materials for use within each coating system that are compatible with one another and substrates indicated, under condition of service and application as demonstrated by manufacturer, based on testing and field experience.
2. Recommended products for each coat in a coating system in writing by manfucturers of topcoat for use in coating system and on substrate indicated.

C. Gloss Levels: Products shall comply with MPI (APSM) Gloss Level Standards according to ASTM D523

D. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior coatings applied at project site, the following VOC limits, exclusive or colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D.

2.3 TOP COAT MATERIALS

A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.

1. Volatile Organic Compound (VOC) Content:
   a. Provide coatings that comply with the most stringent requirements specified in the following:
      1) 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   b. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

B. Latex Coating Type Concrete Substrates, Vertical Surfaces & Gypsum Board Substrates:

1. Number of Coats: Two.
2. Top Coat(s): Latex, Interior, High Performance Architectural; MPI #138, #139, #140, #141
   a. Sheen: Eggshell.
   b. Products: **Basis of Design: Sherwin-Williams; Pro Industrial Pre-Catalyzed Waterbased Epoxy: www.protective.sherwin-williams.com/#sle. (MPI #139)**

c. Substitutions: Section016000-Product Requirements.

1) Behr Pro Pre-Catalyzed Waterborne Epoxy Eggshell [No. HP140]: www.behr.com/#sle. (MPI #139)

2) PPG Paints; Manor Hall Interior Latex, 82-3310 Series, Eggshell: www.ppgpaints.com/#sle.

3. Latex Coating Type CMU Substrates, Steel Substrates:

a. Number of Coats: Two.

b. Top Coat(s): Latex, Interior, High Performance Architectural; MPI #138, #139, #140, #141.

1) Sheen: Semi-Gloss.

2) Products: **Basis of Design: Sherwin-Williams; Pro Industrial Pre-Catalyzed Waterbased Epoxy: www.protective.sherwin-williams.com/#sle. (MPI #139)**

3) Substitutions: Section016000-Product Requirements.

(a) Behr Pro Pre-Catalyzed Waterborne Epoxy Eggshell [No. HP140]: www.behr.com/#sle. (MPI #139)

(b) PPG Paints; Manor Hall Interior Latex, 82-3310 Series, Eggshell: www.ppgpaints.com/#sle.

4. Primer: As recommended by coating manufacturer for specific substrate.

2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by coating manufacturer.

1. Primer Sealer, Latex, Interior; MPI #50.

a. Products: **Basis of Design Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Primer: www.protective.sherwin-williams.com/#sle. (MPI #50)**

b. Substitutions: Section016000-Product Requirements.

1) PPG Paints; Speedhide Latex Quick Dry Sealer, 6-2: www.ppgpaints.com/#sle. (MPI #50)

2) PPG Paints; Pure Performance Interior Latex Primer, 9-900; www.ppgpaints.com/#sle. (MPI #50)

2. Block Filler, Latex; MPI #4.

a. Products: **Basis of Design: Sherwin-Williams; PrepRite Interior/Exterior Block Filler: www.protective.sherwin-williams.com/#sle. (MPI #4)**

1) Substitutions: Section 016000 - Product Requirements.

3. Primer Sealer for Cementitious Substrates, Water Based Epoxy; Concrete.

a. Products:

1) Sherwin-Wiliams Loxon Concrete & Masonry Primer Sealer

2) Substitutions: Section 016000 - Product Requirements.

4. Rust-Inhibitive, Water Based; MPI #107.

a. Products:

1) Sherwin-Williams; Pro Industrial Pro-Cryl Universal Primer: www.protective.sherwin-williams.com/#sle. (MPI #107)

2) Substitutions: Section 016000 - Product Requirements.

2.5 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

2.6 SOURCE QUALITY CONTROL

A. Owner will engage the services of a qualified testing agency to sample coating materials. Contractor will be notified in advance and may be present when samples are taken. If coating materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.

B. Testing agency will perform tests for compliance with product requirements.

C. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Do not begin application of coatings until substrates have been properly prepared.

C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Cementitious Substrates: Do not begin application until substrate has cured 28 days minimum and measured moisture content is not greater than 12 percent.
   2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
   3. Concrete Floors and Traffic Surfaces: 8 percent.
   4. Gypsum Board: 12 percent.

G. Masonry: Verify masonry joints are struck flush.

H. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

I. Proceed with coating application only after unacceptable conditions have been corrected.
   1. Commencing coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in MPI (APSM) applicable to substrates indicated.

B. Clean surfaces of loose foreign matter.

C. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.

D. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

E. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
   1. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.

F. Existing Painted and Sealed Surfaces:
   1. Remove loose, flaking, and peeling paint. Feather edge and sand smooth edges of chipped paint.
   2. Clean with mixture of trisodium phosphate and water to remove surface grease and foreign matter.

G. Concrete:

1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
2. Clean concrete according to ASTM D4258. Allow to dry.
3. Prepare surface as recommended by coating manufacturer and according to SSPC-SP 13.

H. Masonry:

1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
2. Prepare surface as recommended by coating manufacturer.

I. Galvanized Surfaces:

1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
2. Prepare surface according to SSPC-SP 2.

J. Ferrous Metal:

1. Solvent clean according to SSPC-SP 1.
2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
3. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning", and protect from corrosion until coated.

K. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.

3.3 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Concrete: Prior to priming, patch with masonry filler to produce smooth surface.

C. Concrete Masonry: Apply masonry filler to thickness required to fill holes and produce smooth surface; minimum thickness of 30 mils (0.8 mm).

3.4 COATING APPLICATION

A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in "MPI Architectural Painting and Specification Manual".

B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

C. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

D. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

E. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

F. Do not paint over labels of independent testing agencies, door/frame rating labels or equipment name, identification, performance rating, or nomenclature plates.

G. Do Not Paint exposed plywood backing panels for electrical and IT equipment.

H. Use applicators and techniques suited for coating and substrate indicated.

I. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.

J. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

K. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

3.5 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection.

B. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test coatings for dry film thickness.

1. Touch up and restore coated surfaces damaged by testing.
2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, and specified thickness, Contractor shall pay for retesting and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations, and specified thickness.

3.6 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.7 PROTECTION

A. Protect finished work from damage.

B. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.

C. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

END OF SECTION

SECTION 101100
VISUAL DISPLAY UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Tackboards.

B. Tackable cork surfaces.

1.2 RELATED REQUIREMENTS

A. Section 061000 - ROUGH CARPENTRY: Blocking and supports.

B. Section 092116 - Gypsum Board Assemblies: Concealed supports in metal stud walls.

C. Section 092216 - Non-Structural Metal Framing : Concealed supports in metal stud walls.

D. Section 099123 - Interior Painting: Finishing of wood frame and marker rail.

1.3 REFERENCE STANDARDS

A. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

C. PS 1 - Structural Plywood 2019.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's data on tackboard surface covering, trim, and accessories.

C. Shop Drawings: Indicate wall elevations, dimensions, joint locations , special anchor details.

D. Samples: Two, 2 by 2 inches (50 by 50 mm) in size illustrating materials and finish, color and texture of trim and tackable surfaces.

E. Manufacturer's printed installation instructions.

F. Maintenance Data: Include data on regular cleaning, stain removal .

1.5 QUALITY ASSURANCE

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

1.6 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Submit manufacturer's limited five-year written warranty against manufacturing defects.

PART 2 PRODUCTS

2.1 VISUAL DISPLAY UNITS

A. Tackable Cork Surfaces (TS): Uni-color resilient homogeneous tackable linoleum
   1. Manufacturers: **Refer to I000 Finish Schedule.**
      a. Substitutions: See Section 016000 - Product Requirements.
   2. Cork Thickness: 1/4 inch (6 mm).
   3. Color: As indicated on drawings.
   4. Backing: Burlap, laminated to tack surface.
   5. Fire Rating: Class B
   6. Pattern Match: Straight Match, Reverse Hung
   7. Height: 48 inches (1220 mm).
   8. Length: As indicated on drawings, in one piece.

9. Frame: Extruded aluminum , with concealed fasteners.
10. Frame Profile: J-Trim.
11. Frame Finish: Anodized, natural.
12. Adhesives: As determined by manufacturer.
13. Caulk: Coordinat with color of cork surface.

2.2 MATERIALS

A. Burlap: Tightly woven, flame retardant treated.

B. Plywood: PS 1 Grade C-D , softwood.

C. Adhesives: Type used by manufacturer.

2.3 ACCESSORIES

A. Temporary Protective Cover: Sheet polyethylene, 8 mil (0.2 mm) thick.

B. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.1 EXAMINATION

A. Complete finishing operations, including painting, before beginning installation of tacakable cork surface wallcovering materail.

B. Wall surface to recieve wallcovering materials shall be dry and free from dirt, grease, loose paint, and scale.

C. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings.

D. Notify the contractor and architect in writing of any conditions detrminetal to the proper and timely completion of the installation.

3.2 PREPARATION

A. Acclimatize tackable wall panels by removing from packaging in installation area not less than 24 hours before application.

B. Remove switchplates, wall plates, and surface-mounted fixtures where tackable wall paneling is applied. Reinstall items on completion of installation.

C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install tackable cork surfaces in accordance with manufacturer's instructions.

B. Secure units level and plumb.

C. Cut sheets to size includng a few inches of overage. Allow sheets to lay flat for at least twenty-four hours prior to the application. Mark roll direction and sequence on the backside of each sheet. Hang sheets in sequence cut from the roll, do not reverse sheets.

D. Back roll each sheet prior to the installation to release curl memory.

3.4 CLEANING

A. Clean board surfaces in accordance with manufacturer's instructions.

B. Cover with protective cover, taped to frame.

C. Remove temporary protective cover at Date of Substantial Completion.

END OF SECTION

SECTION 101423
PANEL SIGNAGE

PART 1 GENERAL

SUMMARY

1.1 SECTION INCLUDES:

A. Panel signs.

1.2 DEFINITIONS

A. Accessible: In accordance with the accessibility standard.

1.3 COORDINATION

A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For panel signs.
   1. Include fabrication and installation details and attachments to other work.
   2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
   3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
   1. Include representative Samples of available typestyles and graphic symbols.

D. Product Schedule: For panel signs. Use same designations indicated on Drawings or specified.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by signage manufacturer.Generally retain first paragraph below. Revise if uniform graphic image is not required.

B. Source Limitations: Obtain all sign types through one source from a single manufacturer.

C. Regulatory Requirements:

D. Interior/Exterior Accessible Signs: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.
   1. Accessible Toilet Rooms (Element): ADA, ICC/ANSI A117.1-1998, Comply with The Building Code of New York State, 1110.1.4, 1110.1.6, E107.1. Not resident room toilets.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Deterioration of finishes beyond normal weathering.

b. Deterioration of embedded graphic image.
c. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

2.2 PANEL SIGNS

A. General: Provide panel signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
   1. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerance of plus or minus 1/16 inch measured diagonally.

B. Basis-of-Design Product: ASI-Modulex

C. Signage Series - InForm
   1. Color – to be selected from manufacturers full range

D. Graphic Content and Style:
   1. Provide sign copy that complies with requirements indicated for size, style, spacing, content, mounting height and location, material, finishes, and colors of signage.
   2. Color – to be selected from manufacturers full range.

E. Tactile and Braille Copy: Manufacturer's standard process for producing copy complying with ADA Accessibility Guidelines and ICC/ANSI A117.1. Text shall be accompanied by Grade 2 braille. Produce precisely formed characters with square cut edges free from burrs and cut marks.
   1. Panel Material: Non-glare acrylic, not less than 1/8-inch (3 mm). (1/4-inch for slot signs)
   2. Raised-Copy Thickness: Not less than 1/32 inch (0.8 mm).

2.3 ACCESSORIES

A. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.

2.4 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.5 PANEL SIGN TYPES

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
   1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
   2. Install signs so they do not protrude or obstruct according to the accessibility standard.
   3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Accessible Signage: Install in locations on walls on latch side of door and according to the accessibility standard.

C. Mounting Methods:
   1. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

3.3 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION

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SECTION 102123
CUBICLE CURTAINS AND TRACK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface mounted overhead curtain track and guides.

B. Cubicle curtains.

1.2 RELATED REQUIREMENTS

A. Section 055000 - METAL FABRICATIONS: Track supports above ceiling.

B. Section 061000 - ROUGH CARPENTRY: Blocking and supports for track.

C. Section 095100 - Acoustical Ceilings: Suspended ceiling system to support track.

1.3 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2022.

B. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 2023, with Errata.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures.

B. Product Data: Provide data for curtain fabric characteristics and track components..

C. Shop Drawings: Indicate a reflected ceiling plan view of curtain track, hangers and suspension points, attachment details, schedule of curtain sizes.

D. Samples: Submit 12 by 12 inch (300 by 300 mm) sample patch of curtain cloth with representative top, bottom, and edge hem stitch detail, heading with reinforcement and carrier attachment to curtain header.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Curtains: One of each type and size.
   3. Extra Carriers: Ten.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Accept curtain materials on site and inspect for damage.

B. Store curtain materials on site and deliver to Owner for installation when requested.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Cubicle Track and Curtains:
   1. Construction Specialties, Inc; Track Systems: www.c-sgroup.com/#sle.
   2. Inpro; Optitrac: www.inprocorp.com - Basis-of-Design.
   3. Substitutions: See Section 016000 - Product Requirements.

2.2 TRACKS AND TRACK COMPONENTS

A. Tracks: Extruded aluminum sections; one piece per track run.
   1. Profile: Channel.
   2. Mounting: Surface.
   3. Structural Performance: Capable of supporting vertical test load of 50 lbs (23 kg) without visible deflection of track or damage to supports, safely supporting moving loads, and sufficiently rigid to resist visible deflection and without permanent set.

4. Track End Stop: To fit track section.
5. Track Bends: Minimum 12 inch (300 mm) radius; fabricated without deformation of track section or impeding movement of carriers.
6. Finish on Exposed Surfaces: White enamel.

B. Curtain Carriers: Nylon rollers, size and type compatible with track; designed to eliminate bind when curtain is pulled; fitted to curtain to prevent accidental curtain removal.

C. Wand: Aluminum 42 inches long, attached to lead carrier, for pull-to-close action.

D. Installation Accessories: Types required for specified mounting method and substrate conditions.

2.3 CURTAINS

A. Cubicle Curtains:
1. Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
2. Inherently flame resistant or flameproofed; capable of passing NFPA 701 test.
3. Color/Pattern: Architect to select from manufacturers full range. .
4. Open Mesh Cloth: Open weave to permit air circulation; flameproof material, manufacturer's standard color.
5. Attachment of Curtain Fabric to Open Mesh Cloth: Manufacturer's standard sewn seam.

B. Curtain Fabrication:
1. Width of curtain to be 15 percent wider than track length.
2. Length of curtain to end 15 inches (380 mm) above finished floor.
3. Pattern match fabric with vertical seams.
4. Include open mesh cloth at top 20 inches (508 mm) of curtain for room air circulation, attached to curtain as specified above.
5. Seams and Hems: Manufacturer's standard fabrication method for securely sewn and finished seams and hems.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces and supports above ceiling are ready to receive work of this Section.

B. Verify that field measurements are as indicated.

3.2 INSTALLATION

A. Install curtain track to be secure, rigid, and true to ceiling line.

B. See Section 055000 for track supports above ceiling.

C. Install end cap and stop device.

D. Install curtains on carriers ensuring smooth operation.

END OF SECTION

SECTION 102800
TOILET ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Public-use washroom accessories.

B. Owner-Furnished Material: Owner shall furnish toilet paper dispenser, paper towel dispenser, and soap dispenser for installation by Contractor.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include the following:
1. Construction details and dimensions.
2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
3. Material and finish descriptions.
4. Features that will be included for Project.
5. Manufacturer's warranty.

B. Samples: Full size, for each accessory item to verify design, operation, and finish requirements.
1. Approved full-size Samples will be returned and may be used in the Work.

1.3 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.

1.6 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.7 WARRANTY

A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.
1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.

B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch minimum nominal thickness.

C. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.

D. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

E. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

F. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

G. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

H. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. A & J Washroom Accessories, Inc.
2. American Specialties, Inc.
3. Bobrick Washroom Equipment, Inc.
4. Bradley Corporation.

B. Grab Bar:
1. Basis-of-Design Product: Bobrick Washroom Equipment, Inc. – B-5806 series
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch thick.
   a. Finish: Smooth, No. 4 finish (satin).
4. Outside Diameter: 1-1/4 inches.
5. Configuration and Length: As indicated on Drawings.

C. Mirror Unit:
1. Basis-of-Design Product: Bobrick Washroom Equipment, Inc.
   a. Model B-165 24”x 36”
2. Frame: Stainless-steel channel.
   a. Corners: Manufacturer's standard.
3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.
   a. One-piece, galvanized-steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
   b. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.

2.3 FABRICATION

A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION

Specification Section included for reference only.
Specification and structure to be provided by others and erected by General Construction Contractor

Product Guide Specification

DIVISION 107300

SPECIALTIES MANUFACTURERS OF PROTECTIVE COVERS

PART 1 - GENERAL

[reference CSI 2020 MasterFormat™ Division 10 (Specialties Manufacturers) category 7300 (Protective Covers)]

1.01 DESCRIPTION OF PRODUCT

A. RAM30x44 () with over MR.

B. ROOF SLOPE: .

C. Minimum Clearance Height (MCH): **7.5 ft. in ft**. Minimum clearance height under the structure indicates the lowest height of a member from finish grade for clearance under the structure. This is generally the clearance under roof eave or frame, whichever is lower.

1.02 REFERENCES

A. REFERENCE STANDARDS:
1. AISC - American Institute of Steel Construction Manual of Steel Construction.
2. ASTM - American Society for Testing and Materials.
3. AWS - American Welding Society.
4. LEED - Leadership in Energy and Environmental Design.
5. OSHA – Occupational Safety and Health Administration Steel Erection Standard 29 CFR 1926 Subpart R-Steel Erection.
6. PCI - Powder Coating Institute.
7. SSPC – The Society for Protective Coatings.
8. Architecturally Exposed Structural Steel (AESS) - as defined by AISC

1.03 SUBMITTALS

A. GENERAL SUBMITTAL:
Submit [_____] sets of engineered drawings and [_____] sets of engineered calculations, both signed and sealed by a Professional Engineer licensed in the State of [_____].

B. PRODUCT DESIGN REQUIREMENTS:
The building shall meet the following design requirements as shown on the drawings:
1. Building Code: See drawings.
2. Ground Snow Load (Pg): See drawings.
3. Basic Wind Speed (V): See drawings.

4. Seismic Design: See drawings.

D. FOUNDATION DESIGN:
1. The shelter shall be set on foundations designed by manufacturer.
2. Foundation materials shall be provided by contractor.
3. Owner shall provide manufacturer with complete information about the site including soil bearing capacity and lateral load capacity.
4. If soil data are not provided, foundations will be designed to the minimum values identified in the governing building code.

E. ANCHOR BOLTS:
Anchor bolts shall be provided by manufacturer.
Hooked anchors are not permitted par AISC requirements.

F. LEED SUBMITTALS:

LEED MR Credit 4.0: Material and Resources, Recycled Content.

1.04 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS:

1. Minimum of (10) years in the shelter construction industry.
2. Full time on-staff Licensed Engineer.
3. Full time on-staff Quality Assurance Manager.
4. Full time on-staff LEED AP.
5. All welders AWS Certified.
6. Manufacturer owned and controlled finishing system to include shot blast, pretreatment, primer, and top coat.
7. Published Quality Management System.
8. Annual audit of Quality System and Plant Processes by Third Party Agency.
9. Annual audit of powder coat finish system by Third Party Agency (PCI).

B. MANUFACTURER'S CERTIFICATONS:

1. AISC Certified Building Fabricator, (American Institute of Steel Construction) Certified Building Fabricator is an AISC Quality Management Systems (QMS) Certification which sets the quality standard for the structural steel industry.
2. PCI 4000 S Certified, Certification thru Powder Coating Institute for original equipment manufacturers (OEMs) to evaluate process on entire finish system to add powder coat over steel.
3. City of Los Angeles, CA Approved Fabricator Type I Steel.
4. Clark County, NV Approved Fabricator steel.
5. City of Houston, TX Approved Fabricator for Structural Steel.

6. Miami Dade County Certificate of Competency for Structural Steel.
7. State of Utah Approved Fabricator for Medium and High Strength Steel.
8. City of Riverside, CA Approved Fabricator Type I Steel.
9. City of Phoenix, AZ Approved Steel Fabricator.

1.05 FIELD OR SITE CONDITIONS

A. Foundations shall be at the same elevation unless specifically noted otherwise on the drawings.

1.06 MANUFACTURER WARRANTY

A. Shelter must have a (10) year limited warranty on steel frame members.
B. Shelter must have a (10) year limited warranty on paint system.
C. Pass through warranty of Metal Roof manufacturer shall be provided upon request.

PART 2 - PRODUCTS

2.01 SHELTER SYSTEM AND MATERIALS

A. MANUFACTURERS:
   1. Acceptable Manufacturer: Poligon, a Product of PorterCorp,
      4240 N 136th Ave., Holland, MI 49424; 616.399.1963;
      E-mail: info@poligon.com; www.poligon.com.
   2. Talk to a local rep agency.
      Receive pricing from at .
   3. The product shall be designed, produced, and finished at a facility operated and directly supervised by the supplier who has a minimum of (10) years in the business of making pre-manufactured shelters.
   4. Manufacturer must be an AISC Certified Building Fabricator.

B. SUBSTITUTION LIMITATIONS:

   i. Substitutions for cause: Will only be considered when circumstances, outside of the contractor’s control, will create a substantial delay in the completion of the project. Approval of substitution requests is at the discretion of the architect, owner, and/or their designated consultants. Architect will only consider contractor's request for substitution when the following conditions are satisfied:
      1. Requested substitution meets or exceeds requirements as per the Contract Documents and will produce indicated results
      2. Requested substitution provides equal design characteristics that specified product provides
      3. Substitution request is fully documented and properly submitted.

ii. If those conditions are not satisfied, Architect may return requests without action, except to record non compliance with these requirements. It is required that the contractor provide the following:
   1. Documentation that the proposed substitution complies with all requirements as stated or shown in the contract documents and/or drawings
   2. Proof of meeting or exceeding specified warranty and/or certifications. Example: Fabricator Qualifications, such as AISC or PCI4000
   3. Detailed comparison of significant qualities of proposed substitutions with those of the specified product. Include annotated copy of applicable Specification Section. Product data, including drawings and descriptions of products and fabrication
   4. Documentation of any deviations from the specified material/product
   5. Architect may request additional information and documentation prior to rendering a decision
   6. If substitution approval happens during bidding, Architect will approve substitution requests by issuing an Addendum. Substitutions not approved by addendum are rejected. This information will be provided in an expeditious manner.
   7. Substitutions for convenience: Will not be considered

C. PRODUCT REQUIREMENTS AND MATERIALS:

1. GENERAL:
   The pre-engineered package shall be pre-cut unless otherwise noted and pre-fabricated which will include all parts necessary to field construct the shelter. The shelter shall be shipped knocked down to minimize shipping expenses. Field labor will be kept to a minimum by pre-manufactured parts. Onsite welding is not necessary.

2. REINFORCED CONCRETE:
   a. Concrete shall have minimum 28-day compressive strength of 3,000 psi and slump of 4” (+/- 1”), unless otherwise noted on the drawings.
   b. Reinforcing shall be ASTM A615, grade 60.

3. STEEL COLUMNS:
   a. Hollow structural steel tube minimum ASTM A500 grade B with a minimum wall thickness of 3/16”.
   b. Unless columns are direct buried, columns shall be anchored directly to concrete foundation with a minimum of four anchor rods to meet OSHA requirement 1926.755(a)(1).

5. COMPRESSION MEMBERS:
   Compression rings of structural channel or welded plate minimum ASTM A36 or compression tubes or structural steel tube minimum ASTM A500 grade B shall only be used.

6. CONNECTION REQUIREMENTS:
   a. Anchor bolts shall be ASTM F1554 (Grade 36) unless otherwise noted.
   b. Structural fasteners shall be zinc plated ASTM A325 high strength bolts and A563 high strength nuts.
   c. Structural fasteners shall be hidden within framing members wherever possible.
   d. Structural fasteners shall be manufactured in the U.S
   e. No field welding shall be required to construct the shelter.
   f. All welds shall be free of burrs and inconsistencies.
   g. Exposed fasteners shall be powder coated by manufacturer prior to shipment to match frame or roof colors as applicable.
   h. Manufacturer shall provide extra structural and roofing fasteners.

7. ROOFING MATERIALS:

   a. PRIMARY ROOF DECK: “R” PANEL METAL ROOFING (MR):
      1. Roofing shall be 24 gauge ribbed galvalume steel sheets, with ribs 1 3/16” high and 12” on center.
      2. Roof surface shall be painted with Kynar 500 to the manufacturer’s standard color: **Any**. Ceiling surface shall be a “wash coat” primer.
      3. Roof panels shall be factory precut to size and angled to provide ease of one-step installation.
      4. Metal roofing trim shall match the color of the roof and shall be factory made of 26 gauge Kynar 500 painted steel.
      5. Trim shall include panel ridge caps, hip caps, eave trim, splice channels, rake trim, roof peak cap, and corner trim as applicable for model selected. Trim may need to be cut to length and notched. Installation drawings shall have detailed information on how to cut and affix roof trim.
      6. Ridge, hip, and valley caps shall be pre-formed with a single central bend to match the roof pitch and shall be hemmed on the sides.
      7. Roof peak cap shall be pre-manufactured.
      8. Manufacturer shall supply painted screws and butyl tape.
   b. SECONDARY ROOF SYSTEM BY OTHERS

PART 3 - EXECUTION

3.01 INSTALLERS STORAGE AND HANDLING

A. Protect building products after arrival at destination from weather, sunlight, and damage.

B. Installer shall store product elevated to allow air circulation and to not introduce mold, fungi decay or insects to the product.

C. Product must be handled with protective straps or padded forks if lifting with mechanical

equipment. Use of chain or cable to lift product into place will not be accepted and may void manufacturer's warranty.

3.02 ERECTION

A. INSTALLATION:
Install all components according to manufacturer's installation instructions and these specifications.

B. GENERAL CONTRACTOR:
Interface with other work is to be coordinated by the customer or the customer's agent. Certain designs have electrical or other plumbing requirements that are not supplied by Poligon.

C. TOLERANCES:
Tolerances on steel structural members are set according to AISC construction practices, abided in the factory, and cannot be increased. No field slotting or opening of holes will be allowed. It is therefore essential that contractors conform to the tolerances specified on the installation drawings for anchor bolt or column layout details.

D. OSHA COMPLIANCE:
OSHA Compliance to Steel Erection Standard 29CRF 1926 Subpart R-Steel Erection.

3.03 REPAIR

A. Do not attempt any field changes without first contacting Poligon.

3.04 FIELD OR SITE QUALITY CONTROL

A. Field or Site Tests and Inspections are not required by Poligon but may be required by the customer or by the local building inspector.

END OF SECTION

SECTION 122400
WINDOW SHADES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Interior manual roller shades.

1.2 RELATED REQUIREMENTS

A. Section 061000 - ROUGH CARPENTRY: Concealed wood blocking for attachment of headrail brackets.

B. Section 079200: Joint Sealants for sealing the perimeter of installation accessories for light-blocing shades with sealant.

C. Section 092116: Gypsum Board Wall Accessories

D. Section 095123: Acoutical Tile Ceilings

1.3 REFERENCE STANDARDS

A. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 2019.

B. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems Current Edition, Including All Revisions.

C. WCMA A100.1 - Safety of Window Covering Products 2018.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Sequencing:
   1. Do not fabricate shades until field dimensions for each opening have been taken with field conditions in place.
   2. Do not install shades until final surface finishes and painting are complete.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets, including materials, finishes, fabrication details, dimensions, profiles, mounting requirements, and accessories.

C. Shop Drawings: Include shade schedule indicating size, location and keys to details, head, jamb and sill details, mounting dimension requirements for each product and condition, and operation direction.

D. Selection Samples: For each exposed product and for each color and texture specified

E. Verification Samples: Minimum size 10 inches (254 mm) square, representing actual materials, color and pattern.

F. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation, and installation of product.

G. Operation and Maintenance Data: List of all components with part numbers, sources of supply, and operation and maintenance instructions; include copy of shop drawings.

H. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.

B. Installer Qualifications: Company specializing in performing work of this type with minimum five years of documented experience with shading systems of similar size and type.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver shades in manufacturer's unopened packaging, labeled to identify each shade for each opening.

B. Handle and store shades in accordance with manufacturer's recommendations.

1.8 FIELD CONDITIONS

A. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Provide manufacturer's warranty from Date of Substantial Completion, covering the following:
   1. Shade Hardware: five years.
   2. Fabric: five years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Interior Manually Operated Roller Shades: **Basis of Design, Refer to drawing I000 Finish Schedule**

B. Substitutions: See Section016000-Product Requirements.
   1. Hunter Douglas Architectural; RB500 Manual Roller Shades: www.hunterdouglasarchitectural.com/#sle.
   2. MechoShade Systems LLC; Mecho/5 System: www.mechoshade.com/#sle.

2.2 ROLLER SHADES

A. General:
   1. Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.
   2. Provide shade system that operates smoothly when shades are raised or lowered.

B. Roller Shades Type [WT-1]:
   1. **Basis of Design: Refer to I000 Finish Schedule**
   2. Description - Interior Roller Shades: Single roller, manually operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and accessories.
      a. Roll Direction: Roll down, closed position is at window sill.
      b. Mounting: Window jamb mounted - inside, between jambs.
      c. Size: Contractor to confirm final dimensions in field
      d. Fabric: Refer to I000 Finish Schedule
   3. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
   4. Roller Tubes: As required for type of shade operation.
      a. Material: Extruded aluminum, clear anodized finish.
      b. Size: As recommended by manufacturer; selected for suitability for installation conditions, span, and weight of shades.
      c. Fabric Attachment: Utilize extruded channel in tube to accept vinyl spline welded to fabric edge.
   5. Hembars: Designed to maintain bottom of shade straight and flat.
      a. Style: Full wrap fabric covered bottom bar, flat profile with heat sealed closed ends.
   6. Manual Operation for Interior Shades:
      a. Clutch Operator: Manufacturer's standard material and design, permanently lubricated.
      b. Drive Chain: Continuous loop beaded ball chain, 95 pounds (43 kg) minimum breaking strength. Provide upper and lower limit stops.

7. Accessories:
   a. Fascia: Extruded aluminum, size as required to conceal shade mounting, attachable to brackets without exposed fasteners; Finish to be selected from manufacturer's full range.
      1) Color: Refer to I000 Finish Schedule
      2) Profile: L-Shaped.
   b. End Caps: Provide manufacturer's standard end caps to cover exposed ends of brackets.
   c. Side Channels: With llight seals and designed to eliminate light gaps at sides of shades as shades are drawn down. Provide side channels and shadeband guides or other means of aligning sidebands with channels at tops.
   d. Interior Side Channels: As required for light sealing room-darkening shade applications.

2.3 SHADE FABRIC

A. Fabric: Nonflammable, color-fast, impervious to heat and moisture, and able to retain its shape under normal operation.
   1. Manufacturers: **Basis of Design, Refer to drawing I000 Finish Schedule**
      a. Substitutions: See Section016000-Product Requirements
      b. MechoShade Systems LLC; Soho - 1100 Series (1% open): www.mechoshade.com/#sle.
      c. Phifer, Inc; Style 2410 3%: www.phifer.com/#sle.
   2. Material: Vinyl coated polyester.
   3. Performance Requirements:
      a. Flammability: Pass NFPA 701 large and small tests.
   4. Openness Factor: Refer to I000 Finish Schedule
   5. Roll Width: As required to meet width of window. Verify in field.
   6. Color: Refer to I000 Finish Schedule

2.4 ROLLER SHADE FABRICATION

A. Field measure finished openings prior to ordering or fabrication.

B. Dimensional Tolerances: Fabricate shades to fit openings within specified tolerances.
   1. Vertical Dimensions: Fill openings from head to sill with 1/2 inch (13 mm) space between bottom bar and window stool.
   2. Horizontal Dimensions - Inside Mounting: Fill openings from jamb to jamb.
   3. Horizontal Dimensions - Inside Mounting: Provide symmetrical light gaps on both sides of shade not to exceed 3/4 inch (19.05 mm) total.

C. At openings requiring continuous multiple shade units with separate rollers, locate roller joints at window mullion centers; butt rollers end-to-end.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine finished openings for deficiencies that may preclude satisfactory installation.

B. Start of installation shall be considered acceptance of substrates.

3.2 PREPARATION

A. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under the project conditions.

B. Coordinate with window installation and placement of concealed blocking to support shades.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved shop drawings, using mounting devices as indicated.

B. Adjust level, projection, and shade centering from mounting bracket. Verify there is no telescoping of shade fabric. Ensure smooth shade operation.

3.4 CLEANING

A. Clean soiled shades and exposed components as recommended by manufacturer.

B. Replace shades that cannot be cleaned to "like new" condition.

3.5 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals, for closeout submittals.

B. Demonstration: Demonstrate operation and maintenance of window shade system to Owner's personnel.

3.6 PROTECTION

A. Protect installed products from subsequent construction operations.

B. Touch-up, repair, or replace damaged products before Substantial Completion.

3.7 MAINTENANCE

A. See Section 017000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

END OF SECTION

SECTION 123100
MANUFACTURED METAL CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured standard casework, with cabinet hardware.

1.2 RELATED REQUIREMENTS

A. Section 061000 - ROUGH CARPENTRY: Blocking and nailers for anchoring casework.

B. Section 079200 - Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.

C. Section 092116 - Gypsum Board Assemblies: Reinforcements in metal-framed partitions for anchoring casework.

D. Section 092216 - Non-Structural Metal Framing : Reinforcements in metal-framed partitions for anchoring casework.

E. Section 096500 - Resilient Flooring: Resilient wall base.

F. Section 123600 - Countertops.

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 2023.

B. 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 2021a.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

D. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials 2022.

E. BHMA A156.9 - Cabinet Hardware 2020.

F. ICC (IFC) - International Fire Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. NFPA 1 - Fire Code 2021, with Errata (2022).

H. NFPA 30 - Flammable and Combustible Liquids Code 2024.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Component dimensions, configurations, construction details, joint details, and attachments; manufacturer's catalog literature on hardware, accessories, and service fittings, if any.

C. Shop Drawings: Indicate casework types, sizes, locations, using large scale plans, elevations, cross sections. Include rough-in and anchors, placement dimensions and tolerances, clearances required, and keying information.

D. Samples for Finish Selection: Physical samples, in full range offering, to be presented to Architect for final finish selection.

E. Manufacturer's qualification statement.

F. Installer's qualification statement.

G. Maintenance Data: Manufacturer's recommendations for care and cleaning.

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. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect items provided by this section during handling and installation, including finished surfaces and hardware items. For metal surfaces, use polyethylene film or other protective material standard with the manufacturer.

B. Accept casework on site. Inspect on arrival for damage.

C. Coordinate size of access and route to place of installation.

1.7 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Manufacturer Warranty: Provide 5-year warranty against defects. Complete forms in Owner's name and register with manufacturer. Covered defects include, but are not limited to:
   1. Ruptured, cracked, or stained finish coating.
   2. Discoloration or lack of finish integrity.
   3. Cracking or peeling of finish.
   4. Failure of hardware.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Metal Casework: **Basis of Design: Trane**
   1. Jamestown Metal Products: www.jamestown.com/#sle.
   2. Kewaunee Scientific Corp: www.kewaunee.com/#sle.
   3. Substitutions: See Section 016000 - Product Requirements.

2.2 FABRICATION

A. Assembly: Shop assemble casework items for delivery to site in units easily handled and to permit passage through building openings.

B. Casework: Die-formed metal sheet; each unit self-contained and not dependent on adjacent units or building structure for rigidity; factory-fabricated, factory-assembled, and factory-finished.
   1. Style: Flush overlay - square edge.
   2. Primary Cabinet Material: Cold-rolled steel.
   3. Steel Sheet Metal:
      a. Gables, Front and Back Panels, Gusset Plates, Aprons, and Rails: 18 gauge, 0.0478 inch (1.21 mm) minimum thickness.
      b. Drawers, Cabinet Floors, Shelves, Filler Panels and Drawer Dividers: 20 gauge, 0.0359 inch (0.91 mm) minimum thickness.
      c. Backing Sheet to Door and Door Fronts: 22 gauge, 0.0299 inch (0.76 mm) minimum thickness.
   4. Structural Performance: Provide components that safely support the following minimum loads, without deformation or damage:
      a. Base Units: 500 pounds per linear foot (744 kg/linear m) across the cabinet ends.
   5. Corners and Joints: Without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.
   6. Edges and Seams: Smooth. Form counter tops, shelves, and drain boards from continuous sheets.

7. Shelf Edges: Turned down 3/4 inch (19 mm) on each side and returned 3/4 inch (19 mm) front and back.
8. Ends: Close open ends with matching construction.
9. Welding: Electric spot welded; joints ground smooth and flush.
10. Drawers and Doors: Fabricate drawer and door fronts of sandwiched sheets of sheet steel welded together and reinforced for hardware.
    a. Fill with sound-deadening core.
11. Fittings and Fixture Locations: Cut and drill countertops, backs, and other casework components for service outlets and fixtures.
12. Fixed panels at backs of open spaces between base cabinets and at ends of utility spaces not otherwise enclosed.
13. Filler Panels: Flanged on both sides, of matching construction and finish, for locations where cabinets do not fit tight to adjacent construction.
14. Separation: Use bituminous paint or non-conductive tape to coat metal surfaces in contact with cementitious materials, and to separate dissimilar metals.

2.3 CABINET HARDWARE

A. Manufacturer's standard types, styles and finishes.

B. Comply with BHMA A156.9 requirements.

C. Shelves in Cabinets:
1. Shelf Standards and Rests: Vertical standards with rubber button fitted rests, satin chromium plated over nickel on base material.

2.4 MATERIALS

A. General: Manufacturer's standard materials for units specified, unless otherwise indicated.

B. Sheet Steel: High-strength low-alloy, cold rolled and leveled unfinished steel sheet, ASTM A1008/A1008M, Class 1 (matte) finish.

C. Sound Deadening Material: Inorganic, for sandwich panel fabrication.

D. Sealant For Use in Casework Construction: Manufacturer's recommended type.

2.5 FINISHES

A. Metal (Except Stainless Steel): Degrease and phosphate etch followed by primer; minimum two coats baked epoxy; color to be selected by Architect from manufacturers full range.

B. Shop finish all components.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify adequacy of support framing and anchors.

B. Verify that service connections are correctly located and of proper characteristics.

3.2 INSTALLATION

A. Install casework, components and accessories in accordance with manufacturer's instructions.

B. Large Components: Ensure that large components can be moved into final position without damage to other construction.

C. Use anchoring devices to suit conditions and substrate materials encountered.

D. Set casework items plumb and square, securely anchored to building structure, with no distortion.
1. Base Cabinets: Examine floor levelness and flatness of installation space. Do not proceed with installation if encountered floor conditions require more than 3/4 inch (19 mm) leveling adjustment. When installation conditions are acceptable, for each space, establish the high point of the floor. Set and make level and plumb first cabinet in relation to this high point.

E. Align cabinets to adjoining components.

F. Fasten together cabinets in continuous runs, with joints flush, uniform and tight. Misalignment of adjacent units not to exceed 1/16 inch (1.6 mm). In addition, do not exceed the following tolerances:
   1. Variation of tops of Base Cabinets from Level: 1/16 inch (1.6 mm) in 10 feet (3 m).
   2. Variation of Faces of Cabinets from a True Plane: 1/8 inch (3 mm) in 10 feet (3 m).
   3. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch (0.8 mm).
   4. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch (1.6 mm).

G. Separate dissimilar metals to prevent galvanic action.

H. Field touch-up blemishes to original finish.

3.3 ADJUSTING

A. Adjust operating parts, including doors, drawers, hardware, fixtures to function smoothly.

3.4 CLEANING

A. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

B. Clean casework, counters, shelves, legs, hardware, fittings and fixtures.

3.5 PROTECTION

A. Do not permit finished casework to be exposed to continued construction activity.

B. Protect casework and countertops from ongoing construction activities. Prevent installers from standing on or storing tools and materials on casework or countertops.

C. Repair damage that occurs prior to Date of Substantial Completion, including finishes, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

END OF SECTION

SECTION 123200
MANUFACTURED WOOD CASEWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured standard and custom casework, with cabinet hardware for muscal instrument storage.

1.2 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions: VOC limitations for adhesives and sealants.

B. Section 061000 - ROUGH CARPENTRY: Blocking and nailers for anchoring casework.

C. Section 079200 - Joint Sealants: Sealing joints between casework and countertops and adjacent walls, floors, and ceilings.

D. Section 092116 - Gypsum Board Assemblies: Reinforcements in metal-framed partitions for anchoring casework.

E. Section 092216 - Non-Structural Metal Framing : Reinforcements in metal-framed partitions for anchoring casework.

F. Section 096500 - Resilient Flooring: Resilient wall base.

G. Section 123600 - Countertops: Additional requirements for countertops.

H. Section 224000 - Plumbing Fixtures: Sinks and fittings installed in casework.

I. Section 262726 - Wiring Devices: Switches, receptacles installed in casework.

1.3 DEFINITIONS

A. Exposed: Portions of casework visible when drawers and cabinet doors are closed, including end panels, bottoms of cases more than 42 inches (1.066 m) above finished floor, tops of cases less than 72 inches (1.82 m) above finished floor and all members visible in open cases or behind glass doors.

B. Semi-Exposed: Portions of casework and surfaces behind solid doors, tops of cases more than 72 inches (1.828 m) above finished floor and bottoms of cabinets more than 30 inches (0.762 m) but less than 42 inches (1.066 m) above finished floor.

C. Concealed: Sleepers, web frames, dust panels and other surfaces not generally visible after installation and cabinets less than 30 inches (762 mm) above finished floor.

1.4 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards 2021, with Errata.

D. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

1.5 ADMINISTRATIVE REQUIREMENTS

1.6 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Component dimensions, configurations, construction details, joint details, attachments.

C. Shop Drawings: Indicate casework types, sizes, and locations, using large scale plans, elevations, and cross sections. Include rough-in and anchors and reinforcements, placement dimensions and tolerances, clearances required, and keying information.

D. Samples for Finish Selection: Fully finished, for color selection. Minimum sample size: 2 inches by 3 inches (51 mm by 75 mm).
   1. Wood samples for color and species selection.
   2. Plastic laminate samples, for color, texture, and finish selection.
   3. Thermally fused laminate samples, for color, texture, and finish selection.

E. Manufacturer's Qualification Statement.

F. Maintenance Data: Manufacturer's recommendations for care and cleaning.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project:
   1. See Section 016000 - Product Requirements for additional provisions.
   2. Spare Parts: One of each size of door and shelving, 5% additional latch and locking hardware.
   3. Tools: One each of every special tool required for maintenance of _____.

H. Finish touch-up kit for each type and color of materials provided.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect items provided by this section, including finished surfaces and hardware items during handling and installation. For metal surfaces, use polyethylene film or other protective material standard with the manufacturer.

B. Acceptance at Site:
   1. Do not deliver or install casework until the conditions specified under Part 3, Examination Article of this section have been met. Products delivered to sites that are not enclosed and/or improperly conditioned will not be accepted if warping or damage due to unsatisfactory conditions occurs.

C. Storage:
   1. Store casework in the area of installation. If necessary, prior to installation, temporarily store in another area, meeting the environmental requirements specified under Part 3, "Site Verification of Conditions" Article of this section.

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion, at no additional cost to Owner. Defects include, but are not limited to:
   1. Ruptured, cracked, or stained finish coating.
   2. Discoloration or lack of finish integrity.
   3. Cracking or peeling of finish.
   4. Delamination of components.
   5. Failure of adhesives.
   6. Failure of hardware.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Plastic Laminate Casework: **Basis of Design: LSI**
   1. Case Systems: www.casesystems.com/#sle.

2. Diversified Fixture: www.diversifiedfixture.com/#sle.
3. TMI Systems; www.tmisystems.com.
4. Substitutions: See Section 016000 - Product Requirements.

2.2 CASEWORK, GENERAL

A. Quality Standard: AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Types: More than one type is required. See drawings for location of each type of casework.

C. Plastic Laminate Faced Cabinets: Custom Grade.

2.3 FABRICATION

A. Assembly: Shop assemble casework items for delivery to site in units easily handled and to permit passage through building openings.

B. Construction: As required for selected grade.

C. Structural Performance: Safely support the following minimum loads:
1. Base Units: 500 pounds per linear foot (744 kgs/linear m) across the cabinet ends.
2. Suspended Units: 300 pounds (136 kg) static load.
3. Drawers: 125 pounds (57 kg), minimum.
4. Hanging Wall Cases: 300 pounds (135 kg).
5. Shelves: 100 pounds (45 kg), minimum.

D. Fittings and Fixture Locations: Cut and drill components for fittings and fixtures.

E. Hardware Application: Factory-machine casework members for hardware that is not surface applied.

F. Removable back panels on sink cabinets. Provide partial height back panels at sink cabinets.

G. Fixed panels at backs of open spaces between base cabinets.

H. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

I. Scribes and Fillers: Panels of matching construction and finish, for locations where cabinets do not fit tight to adjacent construction.

J. Sloped tops for wall and floor cabinets: With closed ends, of matching construction and finish. Concealed anchorages for attachment to cabinet(s) below.

K. Apron Frames: Construction similar to other cabinets, with modifications.

L. Countertop Panel-Type Supports: Materials similar to adjacent casework, 1-1/2 inch (38 mm) in width, with front-to-back and toe space dimensions matching base cabinet. Designed to be secured in a concealed fashion to countertop material. Include two leveling devices per support panel.

2.4 PLASTIC-LAMINATE-CLAD CASEWORK

A. Plastic-Laminate-Clad Casework: Solid wood and wood panel construction; each unit self-contained and not dependent on adjacent units or building structure for rigidity; in sizes necessary to avoid field cutting except for scribes and filler panels. Include adjustable levelers for base cabinets.
1. Style: Flush overlay. Ease doors and drawer fronts slightly at edges.
2. Cabinet Nominal Dimensions: Unless otherwise indicated, provide cabinets of widths and heights indicated on drawings, and with following front-to-back dimensions:
   a. Base Cabinets: 22 inches (559 mm).
   b. Tall Cabinets: 22 inches (559 mm).
   c. Wall Cabinets: 16 inches (406 mm).
3. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline.

a. Finish: As indicated on I000 Finish Schedule.
b. Surface Color and Pattern: As indicated on drawings.
c. Exposed Interior Surfaces: Thermally fused laminate.
   1) Color: White.
d. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
   1) Matching Wood Grain Pattern: Comply with requirements of quality standard for specified grade _____

2.5 CABINET HARDWARE

A. Manufacturer's standard types, styles and finishes.

B. Locks: Provide locks on casework drawers and doors where indicated. Lock with 5 pin cylinder and 2 keys per lock.
1. Hinged Doors: Cam type lock, satin chromium plated over nickel on base material.
2. Keying: Key locks alike within a space; key each room separately.
3. Master Key System: All locks operable by master key.

C. Shelves in Cabinets:
1. Shelf Standards and Rests: Vertical standards with rubber button fitted rests, satin chromium plated over nickel on base material.

D. Swinging Doors: Hinges, pulls, and catches.
1. Hinges: Visible, number as required by referenced standards for width, height, and weight of door.
   a. Visible Hinges: Installed on framed cabinet face, and on door face, satin chromium plated over nickel on base material.
   b. Semi-Concealed Hinges: Installed as required by hinge design, satin chromium plated over nickel on base material.
   c. Concealed Hinges: Installed in cabinet edge, and on door back, satin chromium plated over nickel on base material.
2. Pulls: Chrome wire pulls, 4 inches (102 mm) wide.
3. Catches: Magnetic.

E. Drawers: Pulls and slides.
1. Pulls: Chrome wire pulls, 4 inches (102 mm) wide.
2. Slides: Steel, full extension arms, ball bearings; self-closing; capacity as recommended by manufacturer for drawer height and width.

2.6 MATERIALS

A. Wood-Based Materials:
1. Solid Wood: Air-dried to 4.5 percent moisture content, then tempered to 6 percent moisture content before use.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications. complying with Grade requirements, and standard with the manufacturer.

2.7 ACCESSORIES

A. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
1. Color: As selected by Architect from manufacturer's standard range.
2. Use at exposed edges.

B. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.

C. Concealed Joint Fasteners: Corrosion-resistant, standard with manufacturer.

D. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

E. Sealant for Use in Casework Installation:
   1. Manufacturer's recommended type.

PART 3 EXECUTION

3.1 PREPARATION

A. Large Components: Ensure that large components can be moved into final position without damage to other construction.

3.2 EXAMINATION

A. Site Verification of Environmental Conditions:
   1. Do not deliver casework until the following conditions have been met:
      a. Building has been enclosed (windows and doors sealed and weather-tight).
      b. An operational HVAC system that maintains temperature and humidity at occupancy levels has been put in place.
      c. Ceiling, overhead ductwork, piping, and lighting have been installed.
      d. Installation areas do not require further “wet work” construction.

B. For Base Cabinets Installation: Examine floor levelness and flatness of installation space. Do not proceed with installation if encountered floor conditions required more than 1/2 inch (13 mm) leveling adjustment. When installation conditions are acceptable, for each space, establish the high point of the floor. Set and make level and plumb first cabinet in relation to this high point.

C. For Wall Cabinets Installation: Examine wall surfaces in installation space. Do not proceed with installation if the following conditions are encountered:
   1. Maximum variation from plane of masonry wall exceeds 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more, and/or maximum variation from plumb exceeds 1/4 inch (6 mm)per story.
   2. Maximum Variation of finished gypsum board surface from true flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

D. Verify adequacy of support framing and anchors.

E. Verify that service connections are correctly located and of proper characteristics.

3.3 INSTALLATION

A. Perform installation in accordance with manufacturer's instructions.

B. Use anchoring devices to suit conditions and substrate materials encountered. Use concealed fasteners to the greatest degree possible. Use exposed fasteners only where allowed by approved shop drawings, or where concealed fasteners are impracticable.

C. Set casework items plumb and square, securely anchored to building structure.

D. Align cabinets to adjoining components, install filler and/or scribe panels where necessary to close gaps.

E. Fasten together cabinets in continuous runs, with joints flush, uniform and tight. Misalignment of adjacent units not to exceed 1/16 inch (1.6 mm). In addition, do not exceed the following tolerances:
   1. Variation of Tops of Base Cabinets from Level: 1/16 inch (1.6 mm) in 10 feet (3 m).
   2. Variation of Bottoms of Wall Cabinets from Level: 1/8 inch (3 mm) in 10 feet (3 m).
   3. Variation of Faces of Cabinets from a True Plane: 1/8 inch (3 mm) in 10 feet (3 m).
   4. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch (0.8 mm).
   5. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch (1.6 mm).

F. Base Cabinets: Fasten cabinets to service space framing and/or wall substrates, with fasteners spaced not more than 16 inches (407 mm) on center. Bolt adjacent cabinets together with joints flush, tight, and uniform.

G. Wall Cabinets: Fasten to hanging strips, and/or wall substrates. Fasten each cabinet through back, near top, at not less than 16 inches (407 mm) on center.

H. Install hardware uniformly and precisely.

I. Countertops: Install countertops intended and furnished for field installation in one true plane, with ends abutting at hairline joints, and no raised edges.

J. Replace units that are damaged, including those that have damaged finishes.

3.4 ADJUSTING

A. Adjust operating parts, including doors, drawers, hardware, and fixtures to function smoothly.

3.5 CLEANING

A. Clean casework and other installed surfaces thoroughly.

3.6 PROTECTION

A. Do not permit finished casework to be exposed to continued construction activity.

B. Protect casework and countertops from ongoing construction activities. Prevent workmen from standing on, or storing tools and materials on casework or countertops.

C. Repair damage, including to finishes, that occurs prior to Date of Substantial Completion, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

3.7 SCHEDULES

END OF SECTION

SECTION 123600
COUNTERTOPS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Countertops for manufactured casework.

B. Wall-hung counters and vanity tops.

1.2 RELATED REQUIREMENTS

A. Section 123100 - Manufactured Metal Casework.

B. Section 224000 - Plumbing Fixtures: Sinks.

1.3 REFERENCE STANDARDS

A. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position 2022.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023b.

C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards 2021, with Errata.

E. IAPMO Z124 - Plastic Plumbing Fixtures 2022.

F. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

G. PS 1 - Structural Plywood 2019.

H. SEFA 2 - Installations 2010.

1.4 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.

D. Verification Samples: For each finish product specified, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

E. Sustainable Design Submittal: Documentation for sustainably harvested wood-based components.

F. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

G. NSI Fabricator Qualification: Documentation of Natural Stone Institute Accreditation.

H. Installation Instructions: Manufacturer's installation instructions and recommendations.

I. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Natural Stone Institute (NSI) Accredited Natural Stone Fabricator; www.naturalstoneinstitute.org/#sle.

B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 COUNTERTOPS

A. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
   1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch (1.2 mm) nominal thickness.
      a. Manufacturers: **Basis of Design: Refer to drawing I000 Finish Schedule**
   2. Substitutions: See Section016000-Product Requirements.
      a. Arborite: www.arborite.com/#sle.
      b. Formica Corporation: www.formica.com/#sle.
      c. Panolam Industries International, Inc; Nevamar Standard HPL: www.panolam.com/#sle.
   3. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
   4. Wear Resistance: In addition to specified grade, comply with NEMA LD 3 High Wear Grade requirements for wear resistance.
   5. Finish: As indicated on I000 Finish Schedule.
   6. Surface Color and Pattern: As indicated on drawings.
   7. Exposed Edge Treatment: Molded rubber edge with T-spline, sized to completely cover edge of panel.
      a. Color: As selected by Architect from the manufacturer's full line.
   8. Back and End Splashes: Same material, same construction.
   9. Fabricate in accordance with manufacturer's standard requirements.

C. Accessories: **Refer to Basis of Design on drawings**
   1. Steel Support brackets; Finish: Architect to select from Manufacturer's full range of colors.
   2. Surface Grommet; Finish: Black
   3. Linear Bar Grille; Finish: Black Anodized Aluminum
   4. Wire Management Knuckle; Finish: Black

2.2 MATERIALS

A. Wood-Based Components:
   1. Wood fabricated from old growth timber is not permitted.
   2. Provide sustainably harvested wood, certified or labeled as specified in Section 016000 - Product Requirements.

B. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch (19 mm) thick; join lengths using metal splines.

C. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.

D. Joint Sealant: Mildew-resistant silicone sealant, white.

2.3 FABRICATION

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
   1. Join lengths of tops using best method recommended by manufacturer.
   2. Fabricate to overhang fronts and ends of cabinets 1 inch (25 mm) except where top butts against cabinet or wall.
      a. Rout a 1/8 inch (3 mm) drip groove at underside of exposed overlapping edges, set back 1/2 inch (13 mm) from face of edge.
   3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
   1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
   2. Height: 4 inches (102 mm), unless otherwise indicated.

C. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces as indicated on drawings.

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.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install laboratory worksurface countertops in compliance with requirements of SEFA 2.

B. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

C. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch (16 mm).

D. Apply sealer products in accordance with manufacturer's written instructions.

E. Seal joint between back/end splashes and vertical surfaces.

3.4 TOLERANCES

A. Variation From Horizontal: 1/8 inch in 10 feet (3 mm in 3 m), maximum.

B. Offset From Wall, Countertops: 1/8 inch (3 mm) maximum; 1/16 inch (1.5 mm) minimum.

C. Field Joints: 1/8 inch (3 mm) wide, maximum.

3.5 CLEANING

A. Clean countertops surfaces thoroughly.

3.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION