

**SPECIFICATIONS FOR
PORT CHESTER – RYE UNION FREE SCHOOL DISTRICT**



**KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT AND RELATED WORK**



FULLER AND D'ANGELO PROJECT #: 22468.00

OWNER: **PORT CHESTER – RYE UNION FREE SCHOOL DISTRICT**
ADDRESS: 113 Bowman Avenue
CITY: Port Chester, NY 10573



ARCHITECTS:

FULLER AND D'ANGELO, P.C.
Architects and Planners
45 Knollwood Road Suite 401
Elmsford, NY 10523



MEP:

BARILE GALLAGHER & ASSOCIATES
39 marble Avenue
Pleasantville, NY 10570



The undersigned certifies that to the best of his knowledge, information and belief, the plans and specifications are in accordance with applicable requirements of the New York State Uniform Fire Prevention and Building Code, The State Energy Conservation and Construction Code Standards of the Department of Education.

Date: 1/20/23

TABLE OF CONTENTS

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

00 0115	LIST OF DRAWING SHEETS
00 2113	BIDDING REQUIREMENTS
00 2115	RFI FORM
00 4101	BID FORM – CONTRACT #1 MECHANICAL CONTRACTOR
00 4336	list of subcontractors
00 4401	QUALIFICATIONS OF BIDDERS
00 4402	HOLD HARMLESS AGREEMENT
00 4460	CERTIFICATION OF COMPLIANCE WITH THE IRAN DISINVESTMENT ACT
00 4470	DECLARATION OF BIDDER'S INABILITY TO PROVIDE CERTIFICATION OF COMPLIANCE WITH THE IRAN DIVESTMENT ACT.
00 4476	INSURANCE CERTIFICATION
00 5200	FORM OF AGREEMENT
00 6000	BONDS AND CERTIFICATES
00 7200	GENERAL CONDITIONS

DIVISION 01 - GENERAL REQUIREMENTS

01 1000	SUMMARY OF CONTRACT
01 1010	MILESTONE SCHEDULE
01 2000	PRICE AND PAYMENT PROCEDURES
01 2005	PARTIAL RELEASE OF LIEN
01 2100	ALLOWANCES
01 2300	ALTERNATES
01 2500	SUBSTITUTION PROCEDURES
01 3000	ADMINISTRATIVE REQUIREMENTS
01 3216	CONSTRUCTION PROGRESS SCHEDULE
01 3306	NONDISCRIMINATION CLAUSES
01 3307	SED SPECIAL REQUIREMENTS
01 3553	SITE SAFETY AND SECURITY PROCEDURES
01 3554	PREVAILING WAGE RATES
01 4000	QUALITY REQUIREMENTS
01 4100	REGULATORY REQUIREMENTS
01 4216	DEFINITIONS
01 4219	REFERENCE STANDARDS
01 5000	TEMPORARY FACILITIES AND CONTROLS
01 6000	PRODUCT REQUIREMENTS
01 6116	VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS
01 7000	EXECUTION
01 7310	CUTTING AND PATCHING
01 7330	SELECTIVE REMOVALS
01 7419	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
01 7800	CLOSEOUT SUBMITTALS
01 7900	DEMONSTRATION AND TRAINING

DIVISION 03 - CONCRETE

03 3000	CAST IN PLACE CONCRETE
---------	------------------------

DIVISION 05 - METALS

05 5000	METAL FABRICATIONS
---------	--------------------

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITE

06 1010	ROOF RELATED ROUGH CARPENTRY
---------	------------------------------

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 5010	MODIFICATIONS TO EXISTING ROOFING
07 6200	SHEET METAL FLASHINGS AND TRIM
07 8400	FIRESTOPPING
07 9200	JOINT SEALANTS

DIVISION 09 - FINISHES

09 9123	PAINTING
---------	----------

DIVISION 22 – PLUMBING

22 0100	GENERAL CONDITIONS
22 0125	SCOPE OF WORK
22 0130	WATER SUPPLY SYSTEM
22 0160	SANITARY AND STORM DRAINAGE SYSTEMS
22 0190	NEW GAS CONNECTIONS AND ASSOCIATED WORK
22 0300	PLUMBING FIXTURES AND EQUIPMENT
22 0310	BACKFLOW PREVENTERS
22 0420	SUPPORTS, SLEEVES AND PLATES
22 0430	INSULATION
22 0470	TESTS AND ADJUSTMENTS
22 0480	TAGS, CHARTS AND IDENTIFICATION
22 0490	GUARANTEE

DIVISION 23 – HVAC

23 0100	GENERAL CONDITIONS
23 0110	SCOPE OF WORK
23 0120	BOILERS/BURNERS
23 0140	DOUBLE WALL INSULATED BOILER BREECHING SYSTEM
23 0190	PUMPS
23 0200	HYDRONIC SPECIALTIES
23 0280	VARIABLE FREQUENCY DRIVES
23 0320	HOT WATER UNIT HEATERS
23 0410	PIPING, FITTINGS, VALVES AND NOTES (HOT WATER)
23 0420	SUPPORTS, SLEEVES AND PLATES
23 0430	INSULATION AND COVERINGS
23 0460	AUTOMATIC TEMPERATURE CONTROLS
23 0470	TESTING, START-UP AND ADJUSTMENTS
23 0480	GENERAL LABELING, VALVE CHARTS AND PIPING IDENTIFICATION
23 0490	GUARANTEE

DIVISION 26 – ELECTRICAL

26 0100	GENERAL CONDITIONS
26 0125	SCOPE OF WORK
26 0150	APPROVED MANUFACTURERS
26 0200	CONDUIT
26 0300	WIRE AND CABLE
26 0320	OVERCURRENT PROTECTIVE DEVICES
26 0350	BOXES
26 0400	WIRING DEVICES
26 0500	SUPPORTING DEVICES
26 0550	GENERAL LABELING AND IDENTIFICATION
26 0575	INTERIOR LUMINAIRES
26 0600	DISCONNECT SWITCHES
26 0650	GROUNDING
26 0700	PANELBOARDS

26 0800	ADDRESSABLE FIRE PROTECTIVE SIGNALING SYSTEM
26 0900	GUARANTEE

DIVISION 31 – EARTHWORK

31 2316 EXCAVATION

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 3113 CHAIN LINK FENCES AND GATES

APPENDIX

LIMITED ASBESTOS INSPECTION REPORT (ROOF SURVEY)

LIMITED ASBESTOS INSPECTION REPORT (BOILER ROOM)

155.5 UNIFORM SAFETY STANDARDS

SECTION 00 0115
LIST OF DRAWING SHEETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 DRAWING INDEX

- A. Drawings are listed on Drawing G-1 for all contracts.
- B. Drawings are the property of the Architect and shall not be used for any other purpose other than contemplated by the Drawings and Project Manual

PART 2 - PRODUCTS (NOR USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
LIST OF DRAWING SHEETS

**SECTION 00 2113
BIDDING REQUIREMENTS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 DOCUMENT INCLUDES

- A. Bid Documents and Contract Documents
 - 1. Definition
 - 2. Contract Documents Identification
 - 3. Availability
 - 4. Examination
 - 5. Inquiries/Addenda
 - 6. Product/Assembly/System Substitutions
- B. Site Assessment
 - 1. Prebid Conference
- C. Qualifications
 - 1. Qualifications
- D. Bid Submission
 - 1. Bid Depository
 - 2. Bid Ineligibility
- E. Bid Enclosures/Requirements
 - 1. Security Deposit
 - 2. Consent of Surety
 - 3. Performance Assurance
 - 4. Bid Form Requirements
 - 5. Bid Form Signature
 - 6. Additional Bid Information
 - 7. Selection and Award of Alternates
- F. Offer Acceptance/Rejection
 - 1. Duration of Offer
 - 2. Acceptance of Offer

1.3 RELATED DOCUMENTS

- A. Document 01 1000 - Summary of Contracts.
- B. Section 00 4101 - Bid Form Contract #1 - MC (Mechanical Contractor)
- C. Section 00 4402 - Hold Harmless Agreement.
- D. Section 00 4460 - Certification of Compliance with the Iran Divestment Act **OR**:
- E. Section 00 4470 - Declaration of Bidder's Inability to Provide Certification of Compliance with the Iran Divestment Act.
- F. Section 00 4476 – Insurance Certification
- G. Section 00 5200 - Agreement Form.
- H. Section 00 6000 - Bonds and Certificates.
- I. Section 00 7200 - General Conditions.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

- J. Section 01 2100 - Allowances.
- K. Section 01 2300 - Alternates.
- L. Section 01 5000 - Temporary Facilities and Controls
- M. Section 01 7000 - Execution.
- N. Section 01 7800 - Closeout Submittals.

1.4 BID SUBMISSION

- A. Bids signed and under seal, executed, and dated will be received at the office of the Port Chester-Rye UFSD, 113 Bowman Avenue, Port Chester, NY 10573 before 3:30 PM local time on the 2nd day of March, 2023.
- B. Offers submitted after the above time shall be returned to the bidder unopened.
- C. Offers will be opened publicly immediately after the time for receipt of bids.

1.5 INTENT

- A. The intent of this Bid request is to obtain an offer to perform work to complete the Boiler Replacement located at King Street Elementary School a Stipulated Sum contract, in accordance with the Contract Documents.

1.6 LUMP SUM BIDS

- A. Bids will be received for one (1) contract as follows:
 - 1. Contract #1 MC (Mechanical)

1.7 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises Boiler Replacement, including general construction, mechanical, and electrical work.

1.8 CONTRACT TIME

- A. Perform the Work within the time stated in Section 01 1000 - Summary of Contracts.
- B. All work for this project shall not commence prior to the issuance of Letter of Award by the Owner. The items of work shall be scheduled and completed as stated in Section 01 1010 - Milestone Schedule. Failure to complete the work within scheduled time(s) shall subject the Contractor to being assessed liquidated damages incurred by the Owner, including but not limited to cost for, Fuller and D'Angelo, P.C., Consultants, Owner's staff, overtime, and legal costs as required to complete the project. The attention of the bidders is specifically directed to the provisions of the General Conditions of the Contract that time is of the essence to the Contract and that on no account will the contractor be permitted to assert a claim for damages for delays.
- C. The attention of the bidders is specifically directed to the provisions of the General Conditions of the Contract Article 8 of the General Conditions that time is of the essence to the Contract and that on no account will the Contractor be permitted to assert a claim for damages for delays.
- D. The bidder, in submitting an offer, accepts the Contract Time period stated for performing the Work. The completion date stated in the Agreement and Section 01 1010 Milestone Schedule.

1.9 BID DOCUMENTS AND CONTRACT DOCUMENTS

- A. Definitions: All definitions set forth in the General Conditions of the Contract are applicable to these Instructions to Bidders.
- B. Bid Documents: Contract Documents supplemented with Instructions to Bidders, Bid Form, Supplements To Bid Forms and Appendices, Bid securities, Hold Harmless Agreement, Certification of Compliance with Iran Divestment Act, Declaration of Bidders Inability to Provide Certification of Compliance, and Contractor's Qualification Statement.
- C. Contract Documents: Defined in General Conditions. Refer to Section 00 7200 - General Conditions

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

- D. Bid, Offer, or Bidding: Act of submitting an offer under seal.
- E. Bid Amount: Monetary sum identified by the Bidder in the Bid Form.
- F. Bidding Documents include the the Bid Form and Contract Documents including any Addenda issued prior to receipt of bids.

1.10 CONTRACT DOCUMENTS IDENTIFICATION

- A. The Contract Documents are identified as Project Number 22468.00 , as prepared by Fuller and D'Angelo Architects and Planners 45 Knollwood Road, Elmsford, NY 10523, and with contents as identified in the Table of Contents.

1.11 AVAILABILITY

- A. One set of Bid documents in PDF format, can be obtained by Bidders, Sub-Contractors and Suppliers for no cost if picked up at the Port Chester-Rye UFSD Purchasing Office, 113 Bowman Ave, Rye Brook, NY 10573. Contact person: Sherry George - Purchasing Agent, Phone Number: (914) 934-8056 Fax Number: (914) 939-9240.
- B. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

1.12 EXAMINATION

- A. Bid Documents may be viewed at the office of Fuller and D'Angelo Architects and Planners 45 Knollwood Road, Elmsford, NY 10523.
- B. Immediately notify Architect upon finding discrepancies or omissions in the Bid Documents.
- C. Should any conflict occur in or between the Drawings and Specifications, the Contractor shall be deemed to have estimated on the more costly method of doing the work, unless he shall have asked for and obtained a decision in writing from the Architect before the submission of his bid, as to what shall govern.

1.13 INQUIRIES/ADDENDA

- A. Direct questions to Architect
- B. Addenda are written or graphic instruments issued prior to the Bid Date which modify or interpret the bidding documents, including Drawings and Specifications, by additions, deletions, clarifications or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed
- C. Addenda may be issued during the bidding period. All Addenda become part of the Contract Documents. Include resultant costs in the Bid Amount.
- D. Verbal answers are not binding on any party.
- E. Clarifications requested by bidders must be in writing not less than 5 days before date set for receipt of bids. The reply will be in the form of an Addendum, if required, a copy of which will be forwarded to known recipients .
- F. Questions: Any and all questions about the interpretation or clarification of the Bid Documents, or about any other matter affecting the Work or pertaining to the bid must be directed in writing on the form in Section 00 2115 - RFI Form to the Architect:

Fuller and D'Angelo, P.C.
45 Knollwood Road
Elmsford, NY 10523
Attention: Frank DiFato, RA
Voice: 914-592-4444
Fax: 914-592-1717
E-mail: frankd@fullerdangelo.com

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

- G. Answers: The Architect will issue addenda, if necessary, to answer such questions. Bidders shall rely on answers contained in such addenda and shall not rely upon any oral answers given by any employee or agent of the Owner, Architect, and Architect's Consultants.

1.14 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

- A. Where the Bid Documents stipulate a particular product bidders shall comply with the specifications, performance and quality of the specification item. The Architect will not review any substitutions during the bidding period. The bidder assumes all responsibility to meet the requirements and the Architect shall be final authority as to a product is equal to the specification.
- B. See Section 01 2500 - Substitution Procedures for additional requirements.

1.15 SITE EXAMINATION

- A. The bidder shall examine the project site before submitting a bid.
- B. The bidder may inspect the site at the time of the pre-bid conference if one is scheduled, or at other times by advance agreement with the Owner's Representative.
1. Contact Owner's Representative at the following address and phone number in order to arrange a date and time to visit the project site: Port Chester-Rye UFSD, 113 Bowman Avenue, Port Chester, NY. Adam Rubin, Director of Facilities, (914) 934-7983.
 2. Bidders who do not inspect the site shall be nevertheless responsible for such information as might have been obtained from a reasonable site inspection.

1.16 PREBID CONFERENCE

- A. A Bidders Conference has been scheduled for 3:30 P.M. on the 7th day of February, 2023, Bidders shall meet at the front entrance of the King Street Elementary School.
- B. Attendance is non mandatory. Bidder are strongly advised to attend.
- C. All bidders, subcontractors and suppliers are invited.
- D. Representatives of Owner, Architect, and Architect's Consultants will be in attendance.
- E. Summarized minutes of this meeting may be circulated to all known bidders. These minutes will not form part of the Contract Documents.
- F. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

1.17 EVIDENCE OF QUALIFICATIONS

- A. Bidder shall submit with their bid proposal a properly type written and executed Contractor's Qualification Statement in Section 00 4401 - Qualification of Bidders.
- B. The Owner reserves the right to require additional information it deems appropriate concerning the history of the contractor's performance of each such contract.
- C. In accordance with the requirements of General Municipal Law §103-g, the bidder is required to include with its bid make such certification, either (1) the "Certification of Compliance with the Iran Divestment Act" or, in the case where the bidder is unable to make such certification, ((2) the form titled "Declaration of Bidder's Inability to Provide Certification of Compliance with the Iran Divestment Act". Refer to Section 00 4460 & 00 4470.

1.18 SUBCONTRACTORS/SUPPLIERS/OTHERS

- A. Port Chester - Rye UFSD reserves the right to reject a proposed subcontractor for reasonable cause.
- B. Refer to General Conditions for additional requirements.
- C. Refer to 00 4336 - Proposed Subcontractors Form for further requirements.

1.19 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

- B. Submit one copy of the executed offer on the Bid Forms provided in the project manual, signed and sealed with the required security in a closed opaque envelope, clearly identified with bidder's name, project name and Port Chester - Rye UFSD's name on the outside.
- C. Improperly completed information, irregularities in security deposit, may be cause not to open the Bid Form envelope and declare the bid invalid or informal.
- D. Proposals must be submitted on the Form provided by the Architect, included in the project manual, with all blanks appropriately filled in. They must be submitted in sealed envelopes bearing on the outside the name and address of the bidder title of the project.
- E. All bid prices shall be filled in, both in words and figures. Signatures shall be in ink and in longhand. Proposals which are incomplete, conditional or obscure may be rejected as informal. Additional copies of the Proposal Form will be furnished by the Architect upon request.
 - 1. In case of a discrepancy between the words and figures, the written word, not the figures, will govern.
 - 2. Make no erasures, cross-outs, whiteouts, write-overs, obliteration's, or changes of any kind in the Bid Form phraseology, in the entry of unit prices, or anywhere on the Bid form. Fill in all blanks spaces legibly. An illegible entry may disqualify the bid in its entirety. If a mistake is made, use a new Bid Form. No post bid meetings will be afforded to any bidder to explain or clarify illegible or changed entries.
- F. Bidder's shall not rely on oral statements made by any employee or agent of the Owner, Architect, Architect's consultants or Owner's Representative. Before submitting a proposal, bidders shall fully inform themselves as to all existing conditions and limitations and shall include in the Proposal a sum to cover the cost of all items included in the Contract
- G. No oral or telephonic proposals or modifications of proposals will be considered.

1.20 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, blanks, or irregularities of any kind, may at the discretion of the Port Chester - Rye UFSD, be declared unacceptable.
- B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Port Chester - Rye UFSD, be declared unacceptable.
- C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of Port Chester - Rye UFSD, invalidate the bid.
- D. Failure to provide all costs, including Base Bid, Allowances, Alternate and Total Base Bids will, at the discretion of Port Chester - Rye UFSD, invalidate the bid.

1.21 SECURITY DEPOSIT

- A. Bids shall be accompanied by a security deposit as follows:
 - 1. Bid Bond of a sum no less than 10 percent of the Bid Amount on AIA A310 Bid Bond Form, including Alternates, will be required for all Proposals.
 - 2. Refer to Section 00 6000 - Project Forms for additional requirements.
- B. Endorse the Bid Bond in the name of the Port Chester - Rye UFSD as obligee, signed and sealed by the principal (Contractor) and surety.
- C. The security deposit will be returned after delivery to the Port Chester - Rye UFSD of the required Performance and Payment Bond(s) by the accepted bidder.
- D. Include the cost of bid security in the Bid Amount.
- E. After a bid has been accepted, all securities will be returned to the respective bidders .
- F. If no contract is awarded, all security deposits will be returned.

1.22 CONSENT OF SURETY

- A. Submit with the Bid: The attorney in fact who executes the required bonds on behalf of the surety to affix thereto an original certified and current copy of his power of attorney indicating the monetary limit of such power.

1.23 PERFORMANCE ASSURANCE

- A. Accepted Bidder: Shall provide a Performance and Payment bond, as described in Section 00 6000 - Project Forms prior to the execution of the Contract, the bidder to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder in such form and amount as the Owner may prescribe and with such sureties secured through the bidder's usual sources as may be agreeable to the parties.
- B. Include the cost of Performance and Payment Bonds in the Bid Amount.
- C. The bidder shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto an original certified and current copy of his power of attorney indicating the monetary limit of such power

1.24 INSURANCE

- A. Provide an executed Insurance Certification Section 00 4476 - Insurance Certification attached as a supplement to the proposal.
- B. There are special insurance requirements on this project. Refer to Article 11 (AIA 201) of the General Conditions for a summary description of the required coverages. The Owner reserves the right to refuse the award of a Contract to any apparent low bidder who fails to provide the specified insurance certificates at the required time.
 - 1. The Owner, Architect, and Consultants shall be listed as "Additionally Insured" on all applicable policies.
- C. All insurance purchased by Contractor shall constitute primary insurance and primary coverage for all risks insured and that any other liability insurance that Owner, Architect, Engineer, and Consultants may procure or maintain is secondary and that there shall be no contribution by such insurance until insurance provided by the Contractor is exhausted.

1.25 BID FORM REQUIREMENTS

- A. Complete all requested information in the Bid Form and Appendices.

1.26 SALES AND USE TAXES

- A. The Owner is a tax exempt entity, so there shall be no charge for sales or use taxes. The Owner will document this status as requested.

1.27 FEES FOR CHANGES IN THE WORK

- A. Refer to the General Conditions Article 7 (AIA-A201).

1.28 BID FORM SIGNATURE

- A. The Bid Form shall be signed by the bidder, as follows:
 - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
 - 3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

1.29 EQUIVALENCY CLAUSE

- A. Where, in these specifications, certain kinds, types, brands, or manufacturers of material are named, they shall be regarded as the standard of quality. Where two or more are named the Contractor may select one of those items, subject to meeting the requirements of the specified product. If the contractor desires to use any kind, type, brand, or manufacture of material other than those named in the specification, he shall indicate in writing, and prior to award of the contract, what kind, type, brand, or manufacture is included in the base bid for the specified items. Submit information describing in specific detail, wherein it differs from the quality and performance required by the base specifications, and such other information as may be required by the Owner. Contractor shall refer to Section 01 6000 and utilized Substitution Request Form in Section 01 2500 Substitution Procedures.

1.30 NONDISCRIMINATION

- A. All Contractors and Subcontractors of all tiers and all vendors shall comply with all pertinent provisions of the State, Local and Federal law against discrimination in employment practices. Refer to Section 01 3306 - Non-Discrimination Clauses.

1.31 PREVAILING WAGES

- A. New York State law requires the payment of prevailing wages on the project, as listed in 01 3554 - Prevailing Wage Rates.

1.32 ADDITIONAL BID INFORMATION

- A. Submit the following Supplements concurrent with bid submission:
 1. Refer to Section 00 4301 - Bid Form Supplements Cover Sheet.
- B. The bidder by making his bid represents that he has read and understands the bidding documents.
- C. The bidder by making his bid represents that he has visited the site and familiarized himself with the local conditions under which the work is to be performed. Visits to the site shall be arranged through the Architect

1.33 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of 45 days after the bid closing date, except as otherwise provided in General Municipal Law §103 (11).

1.34 ACCEPTANCE OF OFFER

- A. Port Chester - Rye UFSD reserves the right to accept or reject any or all offers.
- B. The bidder acknowledges the right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the bidder recognizes the right of the Owner, at its discretion to reject a bid if the bidder fails to furnish any required bid security, or to submit the information required by the bidding documents, including Section 00 4401 "Qualifications of Bidders", or if the bid is incomplete or irregular.

1.35 POST-BID PROCEDURE

- A. The bid proposal, alternates, allowances, the proposed subcontractors, the Contractor's Qualification Statement, and Information received from owners of other projects will be considered to determine whether the contractor is the "lowest responsible bidder" in making the award. The Owner and Architect may make such investigation as the Owner deems necessary to determine the responsibility of any bidder or to determine the ability of any bidder to perform the Work. Such investigation shall begin with a review of Section 00 4401 - Qualification of Bidders and shall include such additional information as shall be required herein.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

- B. When requested by the Owner, bidders shall furnish all information and data required by the Owner within the time and in the form and manner requested by the Owner. Upon notification from the Owner, the apparent low bidder shall furnish, within Two (2) working days after the bid opening, Two (2) copies of the following information in writing:
1. Evidence of the bidder's financial responsibility, including a certified financial statement prepared by a certified public accountant. The financial statement shall include, but not limited to the following:
 - a. Current assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses):
 - b. Net Fixed Assets:
 - c. Other Assets:
 - d. Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes):
 - e. Other Liabilities (e.g., Capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).
 - f. The names, addresses and phone numbers of the subcontractors and suppliers that the bidder proposes to use on the project.
 - g. A bar-chart showing the bidder's proposed plan and schedule to complete the bidder's work in accordance with the milestones and phasing plan (See Section 01 3216
 - h. The insurance certificates required by the Bid Documents.
 - i. Resumes for Contractor's proposed supervisory staff, including qualifications for specialized expertise or any certification(s) required to perform the Work.
 - j. Names of proposed major sub-contractors (more than 15% of the bid amount) and a listing of the related trade of work and value.
 - k. Any special coordination requirements with other trades.
 - l. Any special storage and staging requirements for construction materials.
 - m. Any other special requirements.
 - n. A proposed schedule of values for the bidder's work.
 - o. A proposed list of submittals and a proposed schedule for making them, all keyed to the bar-chart.
 - p. References and experience:
 - a) List of all past contracts with K12 Public School Districts
 - b) Provide three (3) references (Name, Title, and Phone Number) associated with three (3) different projects (public or private sector) of similar scope and size to the one identified in this contract. Additionally, include the names of two major suppliers used for each of these three (3) projects.
 2. After receipt of the above information, the Owner will designate a time and place for the meeting between the Owner, Architect, and Construction Manager and the apparent low bidder. The apparent low bidder's principal, project manager and site superintendent will attend that meeting, at which time the parties will discuss the bidder's responsiveness, responsibility and qualifications.
 3. The Owner reserves the right to disapprove the use of any proposed Subcontractor, and in such event, the bidder shall submit the name of another Subcontractor in like manner within the time specified by the Owner, as set forth in of the Agreement.
 4. To the fullest extent allowed by law, the Owner reserves the right to reject any bid if the evidence required by the Owner is not submitted or fails to satisfy the Owner that the bidder is responsible, able and qualified to carry out the obligations of the Contract or to complete the Work as contemplated. The Owner will consider the information received in determining whether or not to accept a proposal.
 5. Acceptance of a proposal will be a notice in writing signed by a duly authorized representative of the Owner.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

6. Any bidder whose proposal is accepted will be required to sign the Owner/Contractor Agreement no later than ten (10) days after notification of Award of Bid or five (5) days following receipt of Contract, whichever is later.
7. In the event that the Owner should reject the proposal of the bidder, the Owner may elect to meet with the next lowest bidder and to consider the information as provided above. In the event that the proposal of the next lowest bidder is rejected, the Owner may elect to meet with the third lowest bidder and repeat the above process. At all times the Owner retains the right to reject all bids.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BIDDING REQUIREMENTS

SECTION 00 2115
RFI FORM

CONTRACTOR'S REQUEST FOR INFORMATION NO. _____

F&D RFI NO: _____

(F&D USE)

NAME OF PROJECT: Park Ave. ES Additions and Alterations & Edison ES Alterations & Synthetic Turf Play Area.

NAME OF OWNER: PORT CHESTER - RYE UFSD

DATE: _____

A/E PROJECT NO:17295.01

ARCHITECT: FULLER AND D'ANGELO, P.C.

45 KNOLLWOOD ROAD

ELMSFORD, NEW YORK 10523

TEL: 914.592.4444 FAX: 914.592.1717

FROM (CO. NAME): _____

CONTACT NAME: _____

SUBJECT: _____

DISCIPLINE/TRADE: _____

DWG./SPEC. REFERENCE: _____

QUESTION: _____

___ FIELD CONDITION _____

___ DRAWING/SPEC _____

___ DISCREPANCY _____

___ OWNER CHANGE _____

___ CLARIFICATION _____

___ CONTRACTOR'S SUGGESTION (IF APPLICABLE): _____

ANSWER

ARCHITECT'S SIGNATURE: _____ DATE: _____

Note: review and any responses to this request for information by the architect/engineer is strictly for design intent only and does not constitute acknowledgement or acceptance of any cost or schedule implications unless specifically presented by the contractor. By submission of this request for information, the contractor assumes all responsibility in the absence of an approved change order or work directive.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
RFI FORM

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BID FORM CONTRACT #1 - MC (MECHANICAL CONTRACTOR)

SECTION 00 4101
BID FORM CONTRACT #1 - MC (MECHANICAL CONTRACTOR)

THE PROJECT AND THE PARTIES

TO:

Port Chester - Rye UFSD
113 Bowman Avenue
Port Chester, NY 10573

FOR:

King Street Elementary School
Boiler Replacement Project
697 King Street Port Chester, New York 10753

DATE: _____ (Bidder to enter date)

SUBMITTED BY: _____

Bidder's Full Name _____

Address _____

City, State, Zip _____

Contact Individual _____

Telephone No. _____ E-mail: _____

1.1 OFFER

- A. Having examined the Place of The Work and all matters referred to in the Bidding Requirements and the Contract Documents prepared by Fuller and D'Angelo Architects and Planners for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform Contract #1 MC (Mechanical Construction) Work for the Sum of:

1. BASE BID - 1 - KING STREET ELEMENTARY SCHOOL

- a. The Base Bid of this Proposal for all work required by the Contract Documents is as follows:

-

_____, (\$ _____) DOLLARS

2. CASH ALLOWANCES

- a. The total Cash Allowance as indicated in Section 01 2100 - Allowances is as follows:

Fifteen Thousand _____ (\$15,000.00)
DOLLARS

B. TOTAL BASE BID

1. The Total Base Bid of this Proposal for all work required by the Contract Documents for Contract #1 Mechanical Contracator and Related Work and related work is as follows:

_____, \$ _____), DOLLARS

(The Total Base Bid is sum of 1.1.A.1.a and 1.1.A.2.a)

- C. The undersigned further understands and agrees that he is to furnish and provide all the necessary material, machinery, plant, implements, tools, labor, services, skill and other items of whatever nature required, and to do and perform all the work necessary under the Contract, to complete the work in

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BID FORM CONTRACT #1 - MC (MECHANICAL CONTRACTOR)

accordance with the drawings and specifications and any addenda thereto, and to accept in full compensation therefore the amount of the Total Bid stated, modified by such additive- or deductive alternatives, if any as are accepted by the Owner.

- D. We have included the required security Bid Bond as required by the Instruction to Bidders.
- E. All applicable federal taxes are included and New York taxes are included in the Bid Sum.
- F. All Allowances described in Section 01 2100 - Allowances are included in the Bid Sum.

1.2 ALTERNATES

- A. The Alternates for this Proposal required by the Contract Documents are listed in Section 01 2300.
- B. Alternate No. ALT MC-1
 - 1. The Contractor for Contract #1 Mechanical work shall state the amount to be ADDED TO the Base Bid to provide, furnish and install all labor, equipment and material required to remove and replace existing pumps in accordance with the Specifications and shown on the contract drawings.

_____, (\$ _____), DOLLARS

1.3 ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for forty-five (45) days from the bid closing date.
- B. If this bid is accepted by Port Chester - Rye UFSD within the time period stated above, we will:
 - 1. Execute the Agreement within seven days of receipt of Notice of Award.
 - 2. Furnish the required bonds within seven days of receipt of Notice of Award.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Port Chester - Rye UFSD by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

1.4 REJECTION OF BIDS

- A. The undersigned agrees that the Owner shall have the right to accept or reject any or all bids

1.5 CONTRACT TIME

- A. If this Bid is accepted, we will:
 - 1. Complete all the work covered by this Proposal with a commencement date of NO EARLIER THAN Award of Contract by Owner. Work shall be phased as indicated in 01 1000 Summary of Contracts. Failure to complete each phase of work by dates indicated will result in liquidated damages as stated in the General Conditions.

1.6 CHANGES TO THE WORK

- A. Refer to General Conditions.

1.7 ADDENDA

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
 - 1. Addendum # _____ Dated _____.
 - 2. Addendum # _____ Dated _____.
 - 3. Addendum # _____ Dated _____.
 - 4. Addendum # _____ Dated _____.

1.8 BID FORM SUPPLEMENTS

- A. Refer to Section 00 4301 - Bid Form Supplements Cover Sheet.

1.9 NON-COLLUSIVE BIDDING CERTIFICATION

- A. By submission of this bid or proposal:

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT

BID FORM CONTRACT #1 - MC (MECHANICAL CONTRACTOR)

1. The undersigned bidder and the person or persons signing on behalf of the bidder, and should this bid be 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, 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.
 - b. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor.
 - c. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

1.10 BIDDER'S FURTHER AFFIRMATION AND DECLARATION

- A. The above name bidder and should this bid be a joint bid each party thereto, further affirm and declares:
 1. That said bidder is of lawful age and the only one interested in this bid; and that no other person, firm or corporation, except those herein above named, has any interest in this bid or in the contract proposed to be entered into.
 2. That this bid is made without any understanding, agreement or connection with any other person, firm, or corporation making a bid for the same work, and is in all respects fair and without collusion or fraud.
 3. That said bidder is not in arrears to the Port Chester - Rye UFSD upon debt or contract, and is not a defaulter, as surety or otherwise upon any obligation to the said Port Chester - Rye UFSD
 4. That no member of the Port Chester - Rye UFSD or any officer or employee of the Port Chester - Rye UFSD or person whose salary is payable in whole or in part from the said school district treasury, or the spouse of any foregoing is or shall be or become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise, in this bid, or in the performance of the Contract, or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof.
 5. That he/she has carefully examined the site of the work and that, from his/her own investigations, he/she has satisfied him/herself as to the nature and location of the work, and character, quality and quantity of materials, and all difficulties likely to be encountered, the kind and extent of equipment and other facilities needed for the performance of the work, the general and local conditions, and all other items which may, in any way, affect the work or its performance.
 6. That if a corporation, this bid or proposal containing the Non-Collusive Binding Certification and the foregoing Affirmation and Declaration has been authorized by the Board of Directors of such Corporation, which authorization includes the signing and submission of this bid or proposal and the inclusion therein of the said Certificate of Non-Collusion and Affirmation and Declaration as the Act and Deed of the Corporation.

1.11 BID FORM SIGNATURE(S)

The Corporate Seal of
(Bidder - print the full name of your firm)
was hereunto affixed in the presence of:

(Authorized signing officer, Title)
(Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BID FORM CONTRACT #1 - MC (MECHANICAL CONTRACTOR)

Subscribed and sworn before me this day of ____ 20 ____

Notary Public: _____

My Commission Expire: _____

END OF BID FORM

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
LIST OF SUBCONTRACTORS

SECTION 00 4336
LIST OF SUBCONTRACTORS

PARTICULARS

1.1 NEW YORK STATE WICK'S LAW

- A. Effective July 1, 2008, construction contracts of one million five hundred thousand dollars (\$1,500,000.00) or less will not require the preparation of separate contracts for plumbing and gas fitting; steam heating, hot water heating, ventilation and air conditioning apparatus; and electric wiring and standard illuminating fixtures.
- B. Each bidder on a public work contract, where the preparation of separate contracts is not required, shall submit with its bid, **in a separate sealed envelope**, a list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed upon amount to be paid to each for: (a) plumbing and gas fitting; (b) steam heating, hot water heating, ventilation and air conditioning apparatus; and (c) electric wiring and standard illuminating fixtures.
- C. After the low bid is announced, the sealed list of subcontractors submitted with the bid shall be opened and the names of such subcontractors shall be announced. Thereafter, any changes of subcontractors or agreed-upon amount to be paid to each shall require the approval of the Port Chester-Rye Union Free School District upon a showing of legitimate construction need for such change.
- D. The sealed lists of subcontractors submitted by all other bidders shall be returned to them unopened after the contract award.

1.2 LIST OF SUBCONTRACTORS

- A. Herewith is the list of subcontractors referenced in the bid submitted to be provide by the bidder as applicable:

1.3 (BIDDER) _____

1.4 PROJECT: King Street Boilers Replacement

1.5 TO: Port Chester-Rye Union Free School District

1.6 Dated _____ and which is an integral part of the Bid Form.

- A. The following work will be performed (or provided) by Subcontractors and coordinated by us:
WORK SUBJECT SUBCONTRACTOR NAME and AMOUNT:

Electrical _____ (\$ _____) DOLLARS

Note: If work is to be performed by bidder's own forces indicate "By Bidder".

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
LIST OF SUBCONTRACTORS

SECTION 00 4401
QUALIFICATION OF BIDDERS

1.1 REQUIREMENTS

- A. The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.
- B. With the submittal of the Bid Proposal Form, **the bidder shall attach this Qualification of Bidders** and shall answer all the questions and provide all information requested herein. Failure to answer these questions or provide information requested in full may be cause for rejection of the bidder's proposal. If more space is needed, attach additional sheets with reference to subject paragraph.
- C. The Owner reserves the right to consider, but not limited to, the financial responsibility, experience and reputation in the construction industry, as well as the specific qualifications listed below and elsewhere in this document in considering bids and awarding the contract. Port Chester-Rye UFSD reserves the right to waive any informalities if, at its discretion the interest of the Port Chester-Rye UFSD will be better served.
- D. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit written evidence of financial position and current commitments, license to perform work in the State NY .
- E. Each Company (Bidder) shall have been in existence under the same name for no less than five (5) years.
- F. Each Company (Bidder) shall have successfully completed three (3) projects within the last five (5) years substantially **similar in scope, size, complexity and dollar value** to the work of this project.
- G. Each Company (Bidder) shall furnish, on the attached form, the three (3) projects of it has performed during the most recent five (5) years including, but not limited to, the name and address of the project, the name of the awarding entity/owner, the name of the awarding entity's/owner's representative, construction manager and architect, current telephone numbers where each can be reached, the description of the project, general scope of the contractor's work, contract price, dates of performance, whether the contract was terminated for cause or convenience, whether the contract was completed on time and whether liquidated damages were assessed against the contractor, and if so, to any items above provide a written explanation.
 - 1. The Owner's Representative and Architect reserves the right to require additional information it deems appropriate concerning the history of the contractor's performance of each such contract.
- H. The final determination of whether the contractor possesses the requisite experience rests in the sole discretion of the Owner.
- I. To be considered qualified, in addition to the items listed in the Contractor's Qualification Statement, bidder must demonstrate to the Owner's satisfaction:
 - 1. The Corporation, partnership, sole proprietorship of the entity in whose name the bid is submitted has no less than the previous five (5) years performing or coordinating the Work which they are bidding on.
 - 2. The bidder is not currently involved in bankruptcy proceedings.
 - 3. The bidder is capable of and intends to perform the work with its own employees in accordance with the following:
 - a. Notwithstanding any other provisions of the Contract Documents of the field work by its own employees Contractors for MECHANICAL WORK shall perform at least seventy-five (75)% of the field work by its own employees.
 - b. For the purpose of the preceding paragraph, any part of the work performed by supervisory personnel (persons above level of foreman) or by the office personnel and such items as

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

bonds, certificates, shop drawings and similar items shall not be considered part of the percentage of work required to be performed by the Contractor's employees.

4. Each subcontractor must have a minimum of five (5) years experience in the work and/or applicable trade.
5. The bidder will perform the work with sufficient personnel as required to comply with the schedule.
6. Field Superintendent must have at least five (5) years experience as a working field superintendent and must speak English or have a translator available at all times at no cost to the Owner.

1.2 QUESTIONNAIRE:

Submitted to: Port Chester - Rye UFSD

Address: 113 Bowman Avenue

City/Town: Port Chester, NY 10573

Submitted By: _____

Corporation _____ Partnership _____ Individual _____

Address: _____

Principal Office: _____

Other: _____

Project: King Street Boilers Replacement

Facility: King Street Elementary School

Type of Work: (file separate for each Classification of Work)

1. General Construction, HVAC, Plumbing, and Electrical and Related Work.

1.3 ORGANIZATION

- A. How many years has your organization been in business as a Contractor? _____
1. How many years has your organization been in business under its present business name? _____
 2. Under what other or former names has your organization operated?

- B. What is the firm's bonding range?
Single: _____ Aggregate: _____
- C. If your organization is a corporation, answer the following:
1. Date of Incorporation: _____
 - a. State of Incorporation: _____
 - b. President's Name: _____
 - c. Vice-president's name(s): _____
 - d. Secretary's name: _____
 - e. Treasurer's name: _____
- D. If your organization is a partnership, answer the following:
1. Date of organization: _____
 - a. Type of partnership (if applicable): _____
 - b. Name(s) of general partner(s): _____

- E. If your organization is individually owned, answer the following:
1. Date of organization: _____
 2. Name of owner: _____

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

- F. If the form of your organization is other than those listed above, describe it and name the principals:

1.4 OWNERSHIP, MANAGEMENT, AFFILIATION

- A. Identify each person who is or has been ,within the past five years, an owner of 5.0% or more of the firm's shares, one of the five largest shareholders, a director, an officer, a partner or the proprietor, or a managerial employee.

First Name: _____ MI _____ Last Name _____ DOB _____

% Owned: ____ Director: Yes ____ No ____ Officer: Yes ____ No ____ Title _____artner: Yes ____ No ____

First Name: _____ MI _____ Last Name _____ DOB _____

% Owned: ____ Director: Yes ____ No ____ Officer: Yes ____ No ____ Title _____Partner: Yes ____ No ____

First Name: _____ MI _____ Last Name _____ DOB _____

% Owned: ____ Director: Yes ____ No ____ Officer: Yes ____ No ____ Title _____Partner: Yes ____ No ____

- B. Has the firm or any firm listed in response to questions above defaulted or been terminated and its surety called upon to complete, any contract awarded within the past five years Yes ____ No ____ If yes, give date(s), agency (ies)/owner(s), project(s), contract numbers, and describe including the result:

- C. List below any projects performed by the bidder in the past five (5) years on which any of the following events occurred:

1. Were any extension of time were requested by the contractor, Yes ____ No ____ and were such requests granted? Yes ____ No ____
2. Was litigation and/or arbitration commenced by either the Owner or the bidder as a result of the work of the project performed by the bidder? Yes ____ No ____
3. Were any liens filed on the project by subcontractors or material suppliers of the bidder?
Yes ____ No ____
4. Did the bidder make any claims for extra work on the project, and did said claim result in a change order? Yes ____ No ____
5. If Yes:

Project Name/Address _____

Type of Event _____

Name & Phone # of Owner: _____

Contact Person at Owner: _____

- D. For all contracts within the past five years: (a) List all liens or claims over \$25,000 filed against the firm and remaining undischarged or unsatisfied for more than 90 days; and (b) list and describe all liquidated damages assessed: _____

1.5 FINANCIAL INFORMATION

- A. Submit firm's most recent annual financial statement and Dun and Bradstreet Report..

1.6 OTHER INFORMATION

- A. Within the past five years has the firm, any affiliate, any predecessor company or entity or any person identified in questions number 1.1 through 1.2 above been the subject of any of the following: (Respond to each question and describe in detail the circumstances of each affirmative answer: (Attach additional pages if necessary).

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

1. A judgment of conviction for any business-related conduct constituting a crime under state or federal law No__ Yes__
 2. A criminal investigation or indictment for any business-related conduct constituting a crime under state or federal law? No__ Yes__
 3. A grant of immunity for any business-related conduct constituting a crime under state and federal law? No__ Yes__
 4. A federal or state suspension or debarment? No__ Yes__
 5. A rejection of any bid for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? No__ Yes__
 6. A denial or revocation of prequalification? No__ Yes__
 7. A voluntary exclusion from bidding/contracting agreement? No__ Yes__
 8. Any administrative proceeding or civil action seeking specific performance or restitution in connection with any public works contract except any disputed work proceeding? No__ Yes__
 9. An OSHA Citation and Notification of Penalty containing a violation classified as serious? No__ Yes__
 10. An OSHA Citation or Notification of Penalty containing a violation classified as willful? No__ Yes__
 11. A prevailing wage or supplement payment violation? No__ Yes__
 12. A State Labor Law violation deemed willful? No__ Yes__
 13. Any other federal or state Citations, Notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of any labor law or regulation? No__ Yes__
 14. Any criminal investigation, felony indictment or conviction concerning formation of or any business association with, an allegedly false or fraudulent women's, minority or disadvantaged business enterprise? No__ Yes__
 15. Any denial, desertification, revocation or forfeiture of Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise status? No__ Yes__
 16. Rejection of a low bid on a State contract for failure to meet statutory affirmative action M/WBE requirements? No__ Yes__
 17. A consent order with the NYS Department of Environmental Conservation or a federal, state or local government enforcement determination involving a violation of federal or state environmental laws? No__ Yes__
 18. Any bankruptcy proceeding? No__ Yes__
 19. Any suspension or revocation of any business or professional license? No__ Yes__
 20. Any citations, notices, violation orders, pending administrative hearings or proceedings or determinations for violation of hearings or proceedings or determinations for violation of:
 - a. Federal, state or local health laws, rules or regulations? No__ Yes__
 - b. Federal, state or local environmental laws, rules and regulations? No__ Yes__
 - c. Unemployment insurance or workers compensation coverage or claim requirements. No__ Yes__
 - d. ERISA (Employee Retirement Income Security Act) No__ Yes__
 - e. Federal, state or local human rights laws. No__ Yes__
 - f. Federal, state or local labor laws. No__ Yes__
 - g. Federal or state security laws. No__ Yes__
 - h. Withdrawal or an agreement to withdraw a bid submitted to a public owner or a request by a public owner to withdraw a bid? No__ Yes__
- B. During the five year period preceding the submissions of this bid, has the bidder been named as a party in any lawsuit in an action involving a claim for personal injury or wrongful death arising from performance of work related to any project in which it has been engaged? If the answer to this question is yes, list all

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

such lawsuits, the index number associated with said suit and the status of the lawsuit at the time of the submission of this bid. No__ Yes__

- C. During the five year period preceding the submission of this bid, has the bidder been the subject of proceedings before the Department of Labor for alleged violations of the Labor Law as it relates to the payment of prevailing wages and/or supplemental payment requirements? If the answer to this question is yes, please list each such instance of the commencement of a Department of Labor proceeding, for which project such proceeding was commenced, and the status of the proceeding at the time of the submission of this bid. No__ Yes__
- D. During the five year period preceding the bidder's submission of this bid, has the bidder been the subject of proceedings involving allegations that it violated the Worker's Compensation Law including but not limited to the failure to provide proof of worker's compensation or disability coverage and/or any lapses thereof. If the answer to this question is yes, list such instance of violation and the status of the claimed violation at the time of disposition of this bid. No__ Yes__
- E. Has the bidder, its officers, directors, owner and/or managerial employees been convicted of a crime or been the subject of a criminal indictment during the five years preceding the submission of this bid? If the answer to this question is yes, list the name of the individual convicted or indicted the charge against the individual and the date of submission of the charge. No__ Yes__
- F. During the five year period preceding the bidder's submission of this bid, has the bidder been charged with and/or found guilty of any violations of federal, state, or municipal environmental and/or health laws, codes, rules and/or regulations. If the answer to this question is yes, list the nature of the charge against the bidder, the date of the charge, and the status of the charge at the time of the submission of this bid. No__ Yes__
- G. Has the bidder ever defaulted or had its surety called upon to complete any contract awarded within the past five years. If the answer to this question is yes, list the projects, the dates and the nature of the termination (convenience, suspension, for cause). No__ Yes__
- H. Has any officer or partner of the bidder's organization ever defaulted or had its surety called upon to complete any contract awarded within the past five years or been an officer or partner of some other organization that has been terminated from a project by an owner? If yes, state: No__ Yes__
- I. Name of Individual(s) _____ Name of Organization(s) Reason(s)

1.7 LICENSING

- A. List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration of license numbers, if applicable.

- B. List jurisdictions in which your organization's partnership or trade name is filed:

- C. Has any director, officer, owner or managerial employee had any professional license suspended or revoked? If the answer is yes, list the name of the individual, the professional license he/she formally had, whether the license was revoked or suspended and the date of the revocation or suspension. No__ Yes__

1.8 EXPERIENCE

- A. List the categories of work that your organization will perform with its own forces:

- B. Claims and Suits. (If the answer of any of the questions below is yes, please attach details.)

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

1. Have you or has any director, officer, owner or managerial employee ever failed to complete any work awarded to them? If yes, list the project(s) the date(s) and the reason(s) for the failure to complete. No ____ Yes ____
 2. Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers? No ____ Yes ____
 3. Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years? No ____ Yes ____
 4. Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.) No ____ Yes ____
- C. On a separate sheet, list all construction projects presently your organization has in progress or completed, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.
- D. State total worth of work in progress and under contract:
-
- E. On a separate sheet, list all projects, not listed above, that your organization has completed or in progress in the past five years, giving the name of the project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.
- F. State average annual amount of construction work performed during the past five years: _____
-
- G. On a separate sheet, list the construction experience and present commitment of the key individuals of your organization.

1.9 APPRENTICE PROGRAM

- A. Has the Firm have in place apprenticeship agreements appropriate for the type and scope of work to be performed, that have been registered with, and approved by, the Commissioner of the New York State Department of Labor pursuant to the requirements found in Article 23 of the Labor Law. No __ Yes __

1.10 REFERENCES

- A. Trade reference: _____
- B. Bank references: _____
- C. Surety: _____
1. Name of present bonding company: _____
 2. Name and address of agent: _____
 3. Name or previous bonding company: _____

1.11 CERTIFICATION

- A. The undersigned recognizes that this questionnaire is submitted for the purpose of the Port Chester-Rye UFSD awarding a contract or approving a subcontract; acknowledges that the Port Chester-Rye UFSD may in its discretion, by means which it may choose, determine the truth and accuracy of all statements made herein; acknowledge that intentional submission of false or misleading information may constitute a felony under Penal Law §210.40 or a misdemeanor under Penal Law §210.35 or §210.45, and may also be punishable by a fine of up to \$10,000.00 or imprisonment of up to five years under 18 U.S.C. §1001; and states that the information submitted in this questionnaire any attached pages is true, accurate and complete.

Dated at this day of _____

Name of Organization: _____

By: _____ Title _____

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

being duly sworn deposes and says that the information provided herein is true and sufficiently complete
so as not to be misleading. Subscribed and sworn before me this day of: _____

Notary Public: _____ My Commission Expire: _____

1.12 See Previous Project Information Form attached.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

PROJECT NAME: _____

Company work was performed under: _____

Who was Co. Principal in charge: _____

Location: _____

COST OF CONTRACT: _____ **FINAL COST OF WORK:** _____

DESCRIPTION OF WORK:

OWNERS NAME:

OWNER CONTACT: NAME _____ **PHONE** _____ **E.MAIL** _____

CM NAME(IF APPLICABLE): _____

CM CONTACT: NAME _____ **PHONE** _____ **E.MAIL** _____

ARCHITECT FIRM: _____

ARCHITECT CONTACT: _____ **PHONE** _____ **E.MAIL** _____

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

PROJECT NAME: _____

Company work was performed under: _____

Who was Co. Principal in charge: _____

Location: _____

COST OF CONTRACT: _____ **FINAL COST OF WORK:** _____

DESCRIPTION OF WORK:

OWNERS NAME:

OWNER CONTACT: NAME _____ **PHONE** _____ **E.MAIL** _____

CM NAME(IF APPLICABLE): _____

CM CONTACT: NAME _____ **PHONE** _____ **E.MAIL** _____

ARCHITECT FIRM: _____

ARCHITECT CONTACT: _____ **PHONE** _____ **E.MAIL** _____

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALIFICATION OF BIDDERS

PROJECT NAME: _____

Company work was performed under: _____

Who was Co. Principal in charge: _____

Location: _____

COST OF CONTRACT: _____ **FINAL COST OF WORK:** _____

DESCRIPTION OF WORK:

OWNERS NAME:

OWNER CONTACT: NAME _____ **PHONE** _____ **E.MAIL** _____

CM NAME(IF APPLICABLE): _____

CM CONTACT: NAME _____ **PHONE** _____ **E.MAIL** _____

ARCHITECT FIRM: _____

ARCHITECT CONTACT: _____ **PHONE** _____ **E.MAIL** _____

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
HOLD HARMLESS AGREEMENT

SECTION 00 4402
HOLD HARMLESS AGREEMENT

_____ herein the
"CONTRACTOR" assumes responsibility for any and all injury to or death of any and all persons, all injury to or death of any and all persons, including the CONTRACTOR'S agents, servants and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the CONTRACTOR or the CONTRACTOR'S agents, servants or employees, or the CONTRACTOR'S subcontractors or suppliers, and the CONTRACTOR shall indemnify and hold harmless the owner, the Port Chester - Rye UFSD, and the (engineer/architect) Fuller and D'Angelo Architects and Planners their employees and consultants from and against any and all loss and/or expense which they or either of them may suffer or pay as a result of claims or suits due to, because of or arising out of any and all such injuries, deaths and/or damage. The CONTRACTOR if requested, shall assume and defend at the CONTRACTOR'S own expense, any suit, action or other legal proceedings arising therefrom, and the CONTRACTOR hereby agrees to satisfy, pay and cause to be discharged of record any judgment which may be rendered against the owner or architect arising therefrom.

Dated at _____ this day of 202____.

Signed, Sealed and Delivered SIGNED

Name _____

Title _____

in the presence of by:

Name _____ Title _____

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
HOLD HARMLESS AGREEMENT

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT

CERTIFICATION OF COMPLIANCE WITH THE IRAN DISINVESTMENT ACT

SECTION 00 4460
CERTIFICATION OF COMPLIANCE WITH THE IRAN DISINVESTMENT ACT

As a result of the Iran Divestment Act of 2012 (the "Act"), Chapter 1 of the 2012 Laws of New York, a new provision has been added to State Finance Law (SFL) § 165-a and New York General Municipal Law § 103-g, both effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law) (the "Prohibited Entities List"). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, each Bidder/Contractor, any person signing on behalf of any Bidder/Contractor and any assignee or subcontractor and, in the case of a joint bid, each party thereto, certifies, under penalty of perjury, that once the Prohibited Entities List is posted on the OGS website, that to the best of its knowledge and belief, that each Bidder/Contractor and any subcontractor or assignee is not identified on the Prohibited Entities List created pursuant to SFL § 165-a(3)(b).

Additionally, Bidder/Contractor is advised that once the Prohibited Entities List is posted on the OGS Website, any Bidder/Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to this solicitation must certify at the time the Contract is renewed, extended or assigned that it is not included on the Prohibited Entities List.

During the term of the Contract, should the School District receive information that a Bidder/Contractor is in violation of the above-referenced certification, the School District will offer the person or entity an opportunity to respond. If the person or entity fails to demonstrate that he/she/it has ceased engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the School District shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages or declaring the Bidder/Contractor in default. The School District reserves the right to reject any bid or request for assignment for a Bidder/Contractor that appears on the Prohibited Entities List prior to the award of a contract and to pursue a responsibility review with respect to any Bidder/Contractor that is awarded a contract and subsequently appears on the Prohibited Entities List.

I, _____, being duly sworn, deposes and says that he/she is the _____ of the _____ Corporation and that neither the Bidder/ Contractor nor any proposed subcontractor is identified on the Prohibited Entities List.

SIGNED

SWORN to before me this

_____ day of _____ 202__

Notary Public: _____

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CERTIFICATION OF COMPLIANCE WITH THE IRAN DISINVESTMENT ACT

SECTION 00 4470
DECLARATION OF BIDDER'S INABILITY TO PROVIDE CERTIFICATION OF COMPLIANCE WITH
THE IRAN DIVESTMENT ACT.
WITH THE IRAN DIVESTMENT ACT

Bidders shall complete this form if they cannot certify that the bidder /contractor or any proposed subcontractor is not identified on the Prohibited Entities List. The District reserves the right to undertake any investigation into the information provided herein or to request additional information from the bidder.

Name of the Bidder: _____

Address of Bidder: _____

Has bidder been involved in investment activities in Iran? _____

Describe the type of activities including but not limited to the amounts and the nature of the investments (e.g. banking, energy, real estate)

If so, when did the first investment activity occur? _____

Have the investment activities ended? _____

If so, what was the date of the last investment activity? _____

If not, have the investment activities increased or expanded since April 12, 2012? _____

Has the bidder adopted, publicized, or implemented a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran? _____

If so, provide the date of the adoption of the plan by the bidder and proof of the adopted resolution, if any and a copy of the formal plan. _____

In detail, state the reasons why the bidder cannot provide the Certification of Compliance with the Iran Divestment Act below (additional pages may be attached):

I, _____ being duly sworn, deposes and says that he/she is the
_____ of the _____ Corporation and the foregoing
is true and accurate.

SIGNED

SWORN to before me this

_____ day of _____

202____

Notary Public: _____

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
DECLARATION OF BIDDER'S INABILITY TO PROVIDE CERTIFICATION OF COMPLIANCE WITH THE
IRAN DIVESTMENT ACT.

**SECTION 00 4476
INSURANCE CERTIFICATION**

BID OR PROJECT NO. # _____

NAME OF PROJECT: King Street Boilers Replacement

Insurance Representative's Acknowledgement:

We have reviewed the insurance requirements set forth in the bid and are capable of providing such insurance to our insured in accordance with such requirements in the event the contract is awarded to our insured and provided our insured pays the appropriate premium.

INSURANCE REPRESENTATIVE: _____

ADDRESS: _____

Are you an agent for the companies providing the coverage?

Yes _____ No _____

DATE: _____

Insurance Representative

Bidder's Acknowledgement:

I acknowledge that I have received the insurance requirements of this bid and have considered the costs, if any, of procuring the required insurance and will be able to supply the insurance required in accordance with the bid, if it is awarded. I understand that a certificate of insurance must be submitted with my contract and if it is not, the Port Chester-Rye Union Free School District will reject my bid and award to the next lowest bidder.

FIRM NAME:

ADDRESS: _____

DATE: _____

Bidder's Signature

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
INSURANCE CERTIFICATION

**SECTION 00 5200
FORM OF AGREEMENT**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 FORM OF AGREEMENT

- A. The Agreement to be executed is attached following this page.
- B. AIA Document A107, Owner-Contractor Agreement Form - Stipulated Sum 2017 Edition, forms the basis of Contract between the Owner and Contractor. This form has been revised and all revisions have been included in the document. a draft copy is attached.

1.3 RELATED REQUIREMENTS

- A. Section 01 4216 - Definitions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
FORM OF AGREEMENT

AIA® Document A101® – 2017

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

AGREEMENT made as of the day of in the year
(Paragraph deleted)
BETWEEN the Owner:

Port Chester –Rye UFSD
113 Bowman Avenue
Port Chester, New York 10573

and the Contractor:

for the following Project:

Port Chester-Rye UFSD
King Street Elementary School
Boiler Replacement

The Architect:

Fuller & D'Angelo, P.C.
45 Knollwood Road
Elmsford NY 10523

The Owner and Contractor agree as follows.

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.

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

TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A	LIST OF DRAWINGS
EXHIBIT B	LIST OF SPECIFICATIONS
EXHIBIT C	INSURANCE AND BONDS
EXHIBIT D	CONTRACTOR'S PROPOSAL

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Paragraph deleted)

A date set forth in a

(Paragraphs deleted)

Letter of Award issued by the Owner.

§ 3.2 The Contract Time shall be measured from the date of commencement as stated in the Letter of Award.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

[] As indicated in Section 01 1000-Summary of Contracts for various phases work and overall completion.

Init.

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

(Table deleted)

(Paragraph deleted)

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

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

Item	Price	
§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.		
<i>(Paragraph deleted)</i>		
Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:

(Paragraph deleted)

Item	Price
------	-------

§ 4.4 Unit prices, if any:

(Paragraph deleted)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.5 Liquidated damages, if any:

(Paragraph deleted)

As indicated in Article 8 of the AIA Document A201™–2017, General Conditions of the Contract for Construction as revised for this Project

§ 4.6 Other:

(Paragraph deleted)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments (Refer to Section 01 2000 Price and Payment Procedures for Additional Requirements)

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

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

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the last day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the last day of the following

AIA Document A101® – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. The "American Institute of Architects," "AIA," the AIA Logo, "A101," and "AIA Contract Documents" are registered trademarks and may not be used without permission. This document was produced by AIA software at 10:55:17 ET on 04/04/2022 under Order No.1244105850 which expires on 03/06/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail copyright@aia.org.

User Notes:

(1144407089)

month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than forty five (45) days after the Architect receives the Application for Payment.

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

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

§ 5.1.6 In accordance with AIA Document A201™-2017, General Conditions of the Contract for Construction, as revised for this Project, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed in accordance with Section 01 2000 Price and Payment Procedures.

(Paragraphs deleted)

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner will withhold five percent (5%), as retainage, from the payment otherwise

(Paragraphs deleted)
due.

(Paragraphs deleted)

§ 5.1.7.2

(Paragraphs deleted)

The Contractor agrees that maximum payment for each progress payment shall be 95% of the total Contract Sum. The balance of Contract (Final Payment) shall not be made until all Punch List Items are completed and Close-Out Documents are submitted and approved by the Architect.

(Paragraphs deleted)

§ 5.2 Final Payment

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

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201-2017, including all punch list items and submitted all Close-Out requirements and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued to the Owner by the Architect.

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

(Paragraphs deleted)

§ 5.3.1 Payments due and unpaid under the Contract shall not bear interest.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201-2017, as revised for this Project, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(Paragraphs deleted)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, non-binding mediation pursuant to Article 15 of AIA Document A201–2017, as revised for this Project, the method of binding dispute resolution shall be as follows:

☒ [X] Litigation in a court of competent jurisdiction in the County of Westchester in the State of New York.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017 as revised for this Project.

(Paragraphs deleted)

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

§ 8.2 The Owner's representative:

(Paragraph deleted)

§ 8.3 The Contractor's representative:

(Paragraph deleted)

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

§ 8.5 Insurance and Bonds

§ 8.5.1 The Contractor shall purchase and maintain insurance as set forth in in **Article 11 of AIA Document A201™ –2017, General Conditions** as revised for this Project.

(Paragraph deleted)

§ 8.5.1 The Contractor shall provide bonds as set forth in Section 00 6000.

§ 8.6 Other provisions:

Not Applicable

(Paragraphs deleted)

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and

(Paragraphs deleted)

Contractor, as revised and completed for this Project

- .5 Drawings

Number	Title	Date
Refer to Exhibit A		

- .6 Specifications

Section	Title	Date	Pages
Refer to Exhibit B			

- .7 Addenda, if any:

Number	Date	Pages
--------	------	-------

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

- .8 Other Exhibits:
Exhibit C Insurance and Bonds

(Paragraphs deleted)

- .9 Other documents, if any, listed below:

NAME	Date	Pages
(Row deleted)		
(Paragraphs deleted)		
Exhibit D Contractor's Proposal	*****	*****

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

OWNER (Signature)

CONTRACTOR (Signature)

(Printed name and title)

(Printed name and title)

Init.

SECTION 00 6000
BONDS AND CERTIFICATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.
- B. Attorney-in-fact who execute said bonds on behalf of a surety must affix thereto a certified and effectively dated copy of their Power of Appointment and Certification of an officer of the surety that the Power of Attorney continues in effect.

1.2 BID BOND:

- A. A Bid Bond will be required for this project. The American Institute of Architects Document A310, February 2010 edition entitled "Bid Bond" shall be the contract bond form for this project. Each individual bid shall be accompanied by a check upon a duly authorized State, National Bank or Trust Company, duly certified in the sum equal to TEN (10%) percent of the total amount of the bid, or a Bid Bond in the amount of TEN (10%) of the bid, payable to the Owner, and shall be enclosed in an envelope containing the bid; as a guarantee that the Bidder will, after the award is made to him, enter into a bona fide contract with the Owner for the work, and furnish the bonds and liability policies as required under the specifications. If, for any reason, whatsoever, the Bidder fails to enter into a proper contract and to execute the proper bonds, as required by these specifications, the amount of said guarantee be retained by the Owner shall be the difference between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the Work.
 - 1. Each bid bond must also be accompanied by the written consent of the Surety Company authorized to do business in the State of New York and be Best "Secured" rated or better.
- B. All certified checks, except the check of the Bidder to whom a contract is awarded, will be returned to the respective Bidders, as soon as the Letter of Award has been issued by the Owner.
 - 1. The check of the Bidder, to whom a contract has been awarded, shall be retained until the contract has been executed and all bonds together with an approved liability insurance policy are filed with the Owner.

1.3 PERFORMANCE AND PAYMENT BOND:

- A. A Performance and Labor and Material Payment Bond will be required for this project. The bond premiums will be paid for by the Contractor.
- B. The American Institute of Architects, AIA Document A312, 2010 edition, entitled "Performance Bond" and AIA Document A312, 2010 edition, entitled "Payment Bond" and shall be the contract bond form for this project. AIA Document A311 is not acceptable.
- C. Each bond shall be a sum equal to One Hundred (100%) of the Contract Sum and shall be in a form satisfactory to the Owner, and shall be underwritten by a surety company authorized to do business in the State of New York.
- D. Every Bond under this paragraph must display the Surety's Bond Number.
- E. Each bond must be accompanied by an original Power of Attorney, giving the name of attorney's in fact and extent of bonding capacity.
- F. The Surety Company shall be obligated for the bonds for a two year period after substantial completion.
- G. All Surety Companies shall be permitted to do business in the State of New York and be A.M. Best Rating of "A" or better as to Policy Holder Ratings and "VII" or better as to Financial Size category.
- H. 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

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BONDS AND CERTIFICATES

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 the 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. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first-class postage prepaid to Owner.
3. Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner.

END OF SECTION

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

SURETY:

OWNER:

Port Chester –Rye UFSD
113 Bowman Avenue
Port Chester, New York 10573

BOND AMOUNT: \$

PROJECT:

Port Chester-Rye UFSD
King Street Elementary School
Boiler Replacement

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.

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

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

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

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

Init.

AIA Document A310™ – 2010. Copyright © 1963, 1970 and 2010 by The American Institute of Architects. All rights reserved. The "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks and may not be used without permission. This document was produced by AIA software at 10:55:54 ET on 04/04/2022 under Order No. 1244105850 which expires on 03/06/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail copyright@aia.org.
User Notes:

(1684100429)

furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this day of ,

	<hr/>	<i>(Contractor as Principal)</i>	<i>(Seal)</i>
<hr/>	<i>(Witness)</i>	<hr/>	<i>(Title)</i>
		<hr/>	<i>(Surety)</i>
<hr/>	<i>(Witness)</i>	<hr/>	<i>(Title)</i>

Init.
/

AIA Document A312™ – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

(Row deleted)

OWNER:

Port Chester –Rye UFSD
113 Bowman Avenue
Port Chester, New York 10573

CONSTRUCTION CONTRACT

Date:

Amount: \$ 0.00

(Row deleted)

Description:

Port Chester-Rye Ufsd
King Street Elementary School
Boiler Replacement

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☒ See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: _____

Name and

Title:

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

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.

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

Init.

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

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

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

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

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

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

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

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

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

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

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

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

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

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

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

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

§ 14 Definitions

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

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

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

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

§ 14.5 **Contract Documents.** The Construction Contract, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Construction Contract, other documents listed in the Construction Contract, and Modifications issued after execution of the Construction Contract.

Init.

A Modification is (1) a written amendment to the Construction Contract signed by both parties, (2) a Change Order signed by both parties, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect.

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

§ 16 Modifications to this bond are as follows:

.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 the 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. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first-class postage prepaid to Owner.

.3 Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner

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

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

SURETY

Company:

(Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

Signature: _____

Name and Title: _____

Address: _____



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

(Row deleted)

OWNER:

Port Chester –Rye UFSD
113 Bowman Avenue
Port Chester, New York 10573

CONSTRUCTION CONTRACT

Date:

Amount: \$ 0.00

(Row deleted)

Description:

Port Chester-Rye UFSD
King Street Elementary School
Boiler Replacement

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☒ See Section 18

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

Signature: _____

Name and

Title:

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

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.

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

Init.

AIA Document A312™ – 2010 Payment Bond. The American Institute of Architects. All rights reserved. The "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are registered trademarks and may not be used without permission. This document was produced by AIA software at 10:56:38 ET on 04/04/2022 under Order No.1244105850 which expires on 03/06/2023, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail copyright@aia.org.

User Notes:

(2036609089)

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

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

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

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

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

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

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

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

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

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

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

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

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

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

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

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

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

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

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

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

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

§ 16 Definitions

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

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

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

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

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to allow Contractor access to site to complete project in accordance with the contract schedule.

§ 16.5 **Contract Documents.** The Construction Contract, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Construction Contract, other documents listed in the Construction Contract, and Modifications issued after execution of the Construction Contract. A Modification is (1) a written amendment to the Construction Contract signed by both parties, (2) a Change Order signed by both parties, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect.

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

§ 18 Modifications to this bond are as follows:

.1 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 the 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. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first-class postage prepaid to Owner.

.2 Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner

.3 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.

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

CONTRACTOR AS PRINCIPAL

Company: _____ (Corporate Seal)

SURETY

Company: _____ (Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

Signature: _____
Name and Title: _____
Address: _____

**SECTION 00 7200
GENERAL CONDITIONS**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 FORM OF GENERAL CONDITIONS

- A. AIA Document A201, General Conditions of the Contract for Construction, 2017 Edition, attached, is the General Conditions between the Owner and Contractor and has been revised. All deletions and additions have been incorporated, and is hereby made a part of the specifications. All references to the General Conditions within these specifications shall mean "General Conditions of the Contract for Construction" the American Institute of Architects, A.I.A., Document A201, 2007 Edition, as revised..

1.3 RELATED REQUIREMENTS

- A. Section 00 5200 - Agreement Form
- B. SECTION 01 4216 - Definitions.

END OF DOCUMENT

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
GENERAL CONDITIONS

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

Port Chester-Rye UFSD
King Street Elementary School
Boiler Replacement

THE OWNER:

Port Chester-Rye Union Free School District
113 Bowman Avenue,
Port Chester, New York 10753

THE ARCHITECT:

Fuller and D'Angelo, P.C.
Architects and Planners
45 Knollwood Road
Elmsford, N.Y. 10523

TABLE OF ARTICLES

- | | |
|-----------|---|
| 1 | GENERAL PROVISIONS |
| 2 | OWNER |
| 3 | CONTRACTOR |
| 4 | ARCHITECT |
| 5 | SUBCONTRACTORS |
| 6 | CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS |
| 7 | CHANGES IN THE WORK |
| 8 | TIME |
| 9 | PAYMENTS AND COMPLETION |
| 10 | PROTECTION OF PERSONS AND PROPERTY |
| 11 | INSURANCE AND BONDS |
| 12 | UNCOVERING AND CORRECTION OF WORK |
| 13 | MISCELLANEOUS PROVISIONS |

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.

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

Init.

14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

(Paragraphs deleted)

16 NO DAMAGES FOR DELAY

(Paragraphs deleted)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.1.2 Whenever any additional materials and/or workmanship not shown or specified are required to complete the Work of the Contract Documents in accordance with the obvious intent thereof, the Contractor shall provide these materials and workmanship at no additional cost to the Owner. The Contractor shall refer to all of the Drawings, including those showing the work of others performing Work in connection with the Project, and all Divisions of the Specifications and shall perform all Work reasonably inferable from the Contract Documents as being necessary to produce the indicated results.

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

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

§ 1.2.4 In the event of conflict, ambiguity, discrepancy and/or unclear circumstances among the Contract Documents or between any of the requirements of the Contract Documents and any applicable standard, code, statute, regulation or ordinance, the Contractor shall notify the Owner and the Architect of same, comply with the more stringent requirement and comply with the Architect's interpretation. When there is a conflict, ambiguity or discrepancy regarding quantity, unless otherwise directed by the Architect or Owner, the Contractor shall provide the greater quantity. Where there is a conflict in quality, unless otherwise directed by the Architect or Owner, the Contractor shall provide the superior quality. The Contractor herewith agrees that no extra compensation shall be awarded to him, since he herewith received specific instructions to the procedure and values of the work.

§ 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. The inadvertent failure to capitalize such terms in the Contract Documents shall be of no significance.

§ 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 Wherever required by the context, the gender shall include the other gender, the singular shall include the plural, and the plural shall include the singular. Each defined term herein may be used in its singular or plural form whether or not so defined.

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

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

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

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by Federal Express or other nationally recognized overnight delivery service.

§ 1.6.1.1 Notice deposited in the mail in accordance with this Section 1.6 shall be effective, unless otherwise stated in the Contract, from the earlier of (a) the fourth (4th) day following the date deposited in the mail or (b) when actually received. Notices transmitted by Federal Express or other nationally recognized overnight delivery services shall be effective the next business day following timely submission to the service for next day delivery. Notice by personal service shall be effective only if and when received by the party to be notified.

§ 1.6.1.2 All notices to be given to the parties shall be sent to or made at the addresses set forth in the Contract. By giving the other parties at least seven (7) days' written notice thereof, the Contractor, the Owner and the Architect shall have the right to change their respective addresses and specify as their respective addresses for receipt of notices at any other address in the United States of America.

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

§ 1.7 Digital Data Use and Transmission

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 establish the protocols for the development, use, transmission, and exchange of digital data. Neither the Owner, Architects or its agents are obligated to provide any available digital data or information to the Contractor.

§ 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, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative. Refer to Section 01 4216 for additional definitions.

(Paragraph deleted)

Init.

§ 2.2 Information and Services Required of the Owner

§ 2.2.1 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 **the building permit**, necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. All other permits required from local agencies required for construction shall be obtained and paid for by the Contractor.

(Paragraphs deleted)

§ 2.3. 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. Refer to Section 01 4216 for additional definitions.

§ 2.3.1 The Owner shall furnish surveys, if available, describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall exercise proper precautions relating to the safe performance of the Work.

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

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

(Paragraphs 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 repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 2.5 Owner's Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

Init.

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

§ 3.1.4 It is understood and agreed that the relationship between the Contractor and the Owner shall be that of an independent contractor. Nothing contained in or inferable from the Contract Documents shall be deemed or construed to (1) make the Contractor the agent, servant or employee of the Owner or (2) create any partnership, joint venture or other association between the Owner and Contractor. Any direction or instruction by the Owner regarding the Work shall be given solely to relate the results the Owner desires to obtain from the Work and shall not be construed as affecting the Contractor's independent contractor status.

§ 3.1.5 The Contractor shall reimburse the Owner for costs the Owner incurs because of the Contractor's delays, improperly timed activities or defective construction. The Owner may deduct the costs it incurs from any subsequent payment to the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents. Execution of the Contract is also a representation that the Contractor has evaluated and satisfied himself as to the conditions and limitations under which the Work is to be performed, including, without limitation (1) the location, condition, layout and nature of the Project sites and surrounding areas; (2) generally prevailing climatic conditions; (3) the availability and cost of labor, materials, tools and equipment necessary to perform the Work; and (4) any pertinent limitations on the performance of the Work. If items are missing from the Drawings or Specifications, but are normally required for proper execution, function and completion of the Work, the Contractor shall provide such labor, materials and equipment at no added cost to the Owner.

§ 3.2.1.1 The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing Work.

§ 3.2.1.2 The accuracy of grades, elevations, dimensions or locations given in the Contract Documents or the work installed by other contractors is not guaranteed by the Architect or the Owner. The Contractor shall satisfy itself as to the accuracy of all grades, elevations, dimensions, utilities and locations. Prior to connecting its Work to existing structures or other contractor's work, the Contractor shall verify all dimensions and the suitability of the existing structures or work to receive the Contractor's Work. Any errors due to the Contractor's failure to verify such grades, elevations, dimensions, or locations shall be rectified promptly by the Contractor without any additional cost to the Owner.

§ 3.2.1.3 The Owner shall not be required to make any adjustment in the Contract Sum or Contract Time in connection with any failure by the Contractor or any Subcontractor to comply with the requirements of this Section 3.2.1.

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

§ 3.2.2.1 Should the Contractor perform any construction activity knowing it involves an error, inconsistency or omission in the Contract Documents without reporting such error, inconsistency or omission in the Contract Documents to the Architect, the Contractor shall be solely responsible for such performance and shall bear all costs of correction.

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

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

§ 3.2.5 Except as to any reported errors, inconsistencies or omissions, and to concealed or unknown conditions defined in Paragraph 3.2.4, by executing the Agreement, the Contractor represents the following:

§ 3.2.5.1 The Contract Documents are sufficiently complete and detailed for the Contractor to (1) perform the work required to produce the results intended by the Contract Documents and (2) comply with all the requirements of the Contract Documents, within the time permitted for the completion of the work.

§ 3.2.5.2 The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedures and techniques necessary to perform the work, use of materials, selection of equipment and requirements of product manufacturers will be consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to the Work; (3) requirements of any warranties applicable to the work; and (4) all laws, ordinances, regulations, rules and orders which bear upon the Contractor's performance of the work.

§ 3.2.6 Building-In: Contractor(s) and sub-contractors shall note the parts and materials which must be built in as the work progresses, including but not limited to all templates, forms, sleeves, inserts, parts, blocks, anchors, etc. for all work throughout and shall furnish to or set for the Contractor for General Construction in time to prevent delay in the work. Contractors shall also comply with Section 01 7310 or Section 01 7000 Cutting and Patching.

§ 3.3 Supervision and Construction Procedures

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

§ 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 including subcontractors of a subcontractor.

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

§ 3.3.4 The Contractor shall be required to perform its Work with no interruption to the Owner's operations, including its educational, administrative and business operations. Any work which will interfere with the Owner's operations shall be performed during after school hours, Saturdays, Sundays, holidays or times when school is not in session at no additional cost to the Owner. The Owner reserves the right to determine what work will "interfere" with its operations and said determination shall be final.

§ 3.3.4.1 The Contractor may request access to the Project sites during times beyond the work hours permitted. Approval of such a request is solely at the discretion of the Owner. If approval is given, the Contractor is responsible for paying all additional costs incurred by the Owner for providing Project sites to the Contractor during the additional time periods, including but not limited to any overtime costs incurred for the Owner's staff and additional fees of the Architect.

§ 3.3.4.2 The Owner shall not be responsible for any overtime charges or shift differential charges incurred by the Contractor during this Project. All costs associated with Work performed at hours requiring the payment of overtime or shift differentials by the Contractor to its workers shall be the Contractor's responsibility.

§ 3.3.4.2.1 Under no circumstances shall the Contractor or its Subcontractors be entitled to be reimbursed for overtime, except when the Owner specifically agrees in writing to pay for overtime charges that will be incurred by the Contractor for a specified purpose. In such an event, the Owner shall reimburse the Contractor or its Subcontractor on the basis of premium payment only, plus the cost of insurance and taxes based on the premium payment period.

§ 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. Contractor is solely responsible for managing labor and labor relations, including labor disputes or concerted activity, direct or indirect, without any delays or interference with the work schedule and/or other contractors at the site. No delay in the performance of the Work shall be excused by reason of labor problems affecting the Contractor or any subcontractor. In the event of strikes or labor disputes by other separate prime contractors, or other contractors performing work for the Owner under other Contracts, each contractor shall continue with its work and provide all necessary manpower as required to maintain the schedule and completion dates of the project.

§ 3.4.1.1 The Contractor shall be responsible for coordinating the work of its own forces and the work of subcontractors engaged by it to perform the Work on its behalf. The Contractor shall review any specified procedure(s) or installation procedure(s) with its employees and/or subcontractors, including those recommended by any product manufacturer, prior to the commencement of the relevant portion of the Work to be performed.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. Any request by the Contractor to make modifications to the work or substitutions shall not in any way cause or result in the delay of the ordering of any materials or equipment or the scheduling of the Work. Any such request shall require a minimum of thirty days' notice to the Owner and Architect and shall include full documentation of all costs and the time necessary. The full cost of any request by the Contractor for a modification or substitution, including but not limited to the cost of fees for the review of such request by the Owner and Architect or legal counsel and any delay time, shall be borne by the Contractor. Refer to Section 01 2500 Substitution Procedures

§ 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. Should any disorderly, incompetent, or objectionable person be hired or employed by a Contractor, upon or about the premises of the Owner, for any purpose or in any capacity, he shall upon the request of the Architect, be discharged from the work, and not again be employed thereon without the written permission of the Architect.

§ 3.4.4 The Contractor shall not unreasonably encumber the Owner's property with materials or equipment. To the extent storage space is available, only materials and equipment that will be used directly in the performance of the Contractor's Work shall be brought to and stored on the Owner's property. The Contractor shall schedule delivery of materials and equipment to minimize long term storage on the Owner's property, to prevent overcrowding of construction spaces and/or the Project site, and to ensure minimum holding times for materials that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft or other loss. After equipment is no longer required for its Work, the Contractor shall promptly remove such equipment from the Owner's property.

§ 3.4.5 The Contractor shall inspect materials and equipment upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected. The Contractor shall store materials in manner that allows for inspection and, when needed, measurement of quantity or counting of units. The Contractor shall store materials and equipment in a manner that will not endanger the Work or any other structures on the Project sites. The Contractor shall comply with material manufacturer's written instructions concerning temperature, humidity, ventilation and weather-protection requirements for storage and installation.

§ 3.4.6 All products submitted for use and incorporated into this Project shall be asbestos free. Each Contractor is obligated, by virtue of entering into a contract with the Owner, to ensure that absolutely no asbestos containing material is used in conjunction with the performance of its Work. It is the Contractor's sole responsibility to ensure that no asbestos containing material is built into the construction, or that any equipment used in the construction contain any asbestos containing material. If asbestos containing material is found, at any time during or after the construction is completed, it shall be the responsibility of the Contractor who installed said material to remove it and replace it with new non-asbestos containing material in accordance with federal, state and local mandates and to indemnify all their employees, agents, or servants or any third parties including but not limited to the Owner and the Architect, and their respective servants or employees for any costs or damages incurred on account of personal injury or death or property damage caused by, arising out of, or in any way incidental to, or in connection with the performance of the Work hereunder. This provision will be limited only to the extent required by law and shall survive the termination or expiration of the Contract.

§ 3.5 Warranty

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

§ 3.5.2 The warranties set forth herein shall survive termination of this Contract.

§3.5.2.1 The Contractor agrees to assign to the Owner at the time of final completion of the Work, any and all manufacturer's warranties relating to materials and labor used in the work and further agrees to perform the work in such a manner so as to preserve any and all such manufacturer's warranties.

§3.5.2.2 All new installations, assemblies, systems, equipment, and labor and materials installed by this Contractor shall be guaranteed against all defects and failures for a minimum period of 2 years from the date of final completion.

§3.5.2.3 For the above stated time periods from the date of final completion, the Contractor shall, at his own expense, promptly repair and put into first class condition any workmanship and materials in which defects may develop, and shall, at his own expense, promptly replace all defective equipment, apparatus, fixtures and materials, to the full satisfaction of the Owner. All corrections to defective or deficient Work, materials, or equipment shall be performed by the Contractor at the convenience of the Owner.

§3.5.2.4 The date of final completion of all work shall be stated in writing by the Engineer/Architect, and as acknowledged in writing by the Contractor.

§3.5.2.5 During the guarantee period, the Contractor shall be responsible for all costs, incurred in making the defective work good, both for labor and materials, and for all resulting injuries and damages to the building and to equipment.

§3.5.2.6 The guarantee provided by the Contractor is in addition to any warranty provided by equipment and material manufacturer. The Contractor's guarantee period shall not negate the longer guarantee period provided by equipment and material manufacturers.

§3.5.2.7 The Contractor warrants good title to all materials, supplies and equipment installed or incorporated in the work.

§3.5.2.8 The Contractor for itself and its successors and assigns, warranties to the Owner and their successors and assigns:

- a. The Warranty shall remain in effect for a period of time specified in this Section 3.5 as well as for the period of time specified by appropriate Divisions of Specifications.
- b. The Contractor will make good at its own cost and expense all defects and all damage caused to the Owner, in all Work and all trades required by the Contract Documents for Warranty Work. All corrections to defective Work shall be made at the convenience of the Owner.

§ 3.5.2.9 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence upon final completion unless otherwise stated in the Certificate of Substantial Completion.

§ 3.5.3 Refer to Section 01 7800 Closeout Submittal for additional requirements.

§ 3.6 Taxes

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

§ 3.6.2 Contractor shall pay all applicable local, state, federal and other taxes and licenses.

§ 3.6.3. The Owner is exempt from sales and use taxes for materials fully incorporated into the Work of the Contract as accepted and approved by the Architect. The Owner will take title to materials used in the Project in order to permit tax exemption. The Contractor shall pay all other sales, consumer, use and similar taxes incurred in connection with the Work provided by the Contractor. The Owner's exemption from sales and use tax does not apply to machinery, equipment, tools and other items purchased, leased, rented or acquired for the Contractor's use in part or entirely in connection with the Work. Upon request of the Owner or the Architect, the Contractor shall provide a bill of sale or other instrument indicating the quantities and types of materials purchased directly by the Contractor or Subcontractor for incorporation into the Work. Upon delivery of the materials to the Project sites, the Contractor shall mark or otherwise identify the materials to be incorporated into the Work. The Owner's tax exemption shall apply only to materials so identified and accepted.

§ 3.6.3.1 Owner shall provide required exempt documentation when requested.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in Paragraph 2.2.1 herein or in the Contract Documents, the Contractor shall secure and pay for all permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded..

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. The Contractor shall pay any costs or fees incurred to comply with such requirements, any fines or penalties imposed for failing to comply and any costs or fees incurred by Owner due to any failure to comply. If the Contractor fails to give such notices, the Contractor shall be liable for and shall indemnify and hold harmless the Owner including its Board of Education, the Architect and their respective consultants, employees, officials, officers and agents against any

resulting fines, penalties, judgements or damages, including reasonable attorney's fees imposed on or incurred by the parties indemnified hereunder. The Contractor shall procure and obtain all bonds required of the Owner or by the municipality in which the project is located or by any other public or private body with jurisdiction over the Project. In connection with such bonds, the Contractor shall prepare all applications, supply all necessary back-up material and furnish the surety with any required personal undertakings. The Contractor shall also obtain and pay all charges for all approvals for street closings, parking meter removal and other similar matters as may be necessary or appropriate from time to time for the performance of the Work.

§ 3.7.3 The Contractor shall conduct its Work in compliance with federal, state, county and local laws, rules, regulations and ordinances, including but not limited to the NYS Uniform Fire Prevention and Building Code and Section 155.5 of the Regulations of the Commissioner of Education (8 NYCRR § 155.5). If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction. In the event any violations are placed upon the Owner or its property by any public authority as a result of actions or omissions of the Contractor or its Subcontractors, the Contractor shall be solely responsible for such violations and shall bear all costs attributable thereto. Funds in an amount at least sufficient to correct such violations, as determined by the Architect, shall be withheld until all such violations are cured to the satisfaction of the issuing public authority.

§ 3.7.4 Concealed or Unknown Conditions

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

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

§ 3.8 Allowances

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

§ 3.8.2

(Paragraphs deleted)

Refer to Section 01 2100 Allowances for payments.

(Paragraph deleted)

§ 3.9 Superintendent

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

fluently read and write the English language or shall employ, at its sole cost and expense, the services of a full-time on-site qualified interpreter who can read and write the English language and effectively translate oral and written English communications and documents into the language understood by the superintendent and who will facilitate the superintendent's communications with the Owner, the Architect and other contractors performing the Work of the Project. The superintendent at all times shall be provided with a means to be able to have direct communications (e.g. cell phone) with the Owner, Architect and other contractors and their respective officers, directors, employees and agents.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent including addresses and telephone numbers of the members of his organization who can be contacted in the event of an off-hours emergency at the building site. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed. The Superintendent shall be changed upon request of the Owner for reasonable cause.

§ 3.10 Contractor's Construction and Submittal Schedules Refer to Section 01 3216 or 01 3000 for additional requirements.

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The Contractor shall cooperate with the Architect and the Owner in scheduling and performing the Contractor's Work to avoid conflict with, and to cause no delay in, the work or activities of other contractors or the construction or operations of the Owner's own forces. Revisions to schedule shall be approved by the Owner.

§ 3.10.1.1 All of the dates provided for in any of the schedules prepared by the Contractor and submitted to the Architect, including all milestone and submittal dates, shall be considered to be "time of the essence" and may not be changed or modified without the Owner and Architect's specific written approval.

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

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

§ 3.11 Documents and Samples at the Site

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

§ 3.12 Shop Drawings, Product Data and Samples

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

§ 3.12.1.2 Refer to Section 01 3000 for additional requirements.

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

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

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

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

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

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

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

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

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

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon

the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed in New York State 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 and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

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

(Paragraphs deleted)

§ 3.12.11 Comply with Submittal Procedures. Section 01 3000.

§ 3.13 Use of Site

§ 3.13.1 The Contractor(s) shall have limited access to the site on the inside and outside of the building. Comply with other sections regarding limited access. The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents. Refer to Section 01 01731 or Section 01 1700 for additional requirements.

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

§ 3.15 Cleaning Up

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

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor. The Owner may deduct its cost to conduct the cleaning from any subsequent payment to the Contractor.

§ 3.15.3 Prior to occupancy the Owner must perform custodial cleaning of the work area. If the Contractor has not removed construction debris, equipment, tools, etc. that prevent or interfere with the Owner's ability to perform custodial cleaning, the Contractor will be back charged for additional cleaning costs incurred by the Owner.

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

§ 3.18 Indemnification

(Paragraph deleted)

§3.18.1 Indemnity Agreement - Compliance with the requirements as to insurance shall not relieve the contractor from liability under the indemnity agreement set forth in the general conditions as amended

§3.18.1.1 To the fullest extent permitted by law, contractor shall defend, indemnify, and hold harmless the Owner, the Owner's representative, the Architect, the Architect's consultants, and agents and employees of any of them, from and against claims, damages, losses and expenses, including, but not limited to, attorneys' fees and disbursements, arising out of or resulting from performance of the Work, including, but not limited to, such claims, damages, losses and expenses attributable to bodily injury, sickness, disease, or death, or to injury or to destruction of tangible property (other than the work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by acts or omissions of the contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person by law or through the Contract Documents.

§3.18.1.2 In the event that any party is requested but refuses to honor the indemnity obligations hereunder, then the party indemnifying shall in addition to other obligations, pay the cost to the party requesting indemnification or seeking enforcement and enforcing this indemnity requirement including, but not limited to attorney's fees.

§3.18.1.3 In addition, to the extent not covered above, to the fullest extent permitted by law, the Contractor or subcontractor shall defend, indemnify and hold harmless the Owner, Owner's Representative, Architect, Architect's Consultants, and agents and employees of any of them, from any and all claims, losses, damages, suits, obligations, fines, penalties, costs, charges and expenses, which may be imposed or incurred by or asserted against any of them by reason of any act or omission of such contractor, or any subcontractor, or any person or firm directly or indirectly employed by such contractor or subcontractor with respect to violations of any applicable state, federal or local statute, rule, regulation, decision, directive or ordinance, including but not limited to the New York State Labor Law, the New York State Occupational Safety and Health Act, the Federal Occupational Safety and Hazardous Act and similar laws of other governmental bodies having jurisdiction over the Owner's property, Contractor's Work or the Project (e.g. New York State Department of Health, Westchester County Department of Health, New York State Education Department, etc.).

§ 3.18.1.4 The Owner's right to indemnification shall in no way be diminished, waived or discharged by the exercise of any other remedy provided for by the Contract Documents or by law. The Owner may withhold from an offending Contractor's Contract Sum an amount sufficient to cover such damage and all expenses and costs associated with the damage sustained.

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

§ 3.18.3 Whenever any party to the Contract is required in words or substance to indemnify or hold harmless another party, whether or not the following is expressly included in whole or in part in the paragraph or section with regard to such particular indemnification and hold harmless provision, such indemnification and hold harmless provision shall include, but not be limited to, the payment or reimbursement of all judgments, claims, damages, losses, fees costs and

expenses and litigation costs and expenses, including but not limited to, the reasonable fees of its attorneys' and witnesses.

§ 3.18.4 The Contractor's obligations under this Section 3.18 are in addition to and in no way limits or abrogates the indemnity obligations included in any other Section of these General Conditions or the Contract Documents.

§ 3.18.5 The Contractor also shall defend, indemnify and hold harmless the Owner, the Owner's Board of Education and the Architect and their respective consultants, officers, directors, officials, employees, servants and agents (the "Indemnitees"), at the Contractor's sole expense, against any actions, lawsuits or proceedings brought against the Indemnitees as a result of public improvement liens filed against the Contractor. The Contractor hereby agrees to indemnify and hold Indemnitees harmless against any such liens or claims of lien and agrees to pay any judgment, lien and attorneys' fees resulting from any such actions, lawsuits or proceedings.

ARTICLE 4 ARCHITECT

§ 4.1 General

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

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

§ 4.2 Administration of the Contract

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

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

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

§ 4.2.4 Communications

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

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

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

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Refer to Section 01 3000 for additional requirements.

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

§ 4.2.8.1 Except in accordance with Section 7.4, neither the Owner, Owner's Representative nor Architect may issue instructions to the Contractor to change the scope and/or amount of the contract, except by properly executed Change Order or Construction Change Directive.

§ 4.2.8.2 Instructions are issued by the Owner through the Owner's Representative or Architect, to the Contractor. The instructions shall not be carried out by the Contractor prior to a fully-executed written order in the form of a Change Order or Construction Change Directive.

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

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

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

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith. Should the Architect's written interpretations, in the opinion of the Contractor, show additional work, or work of more expensive character than that shown or inferred from the Contract Documents, it shall be the duty of the Contractor to so notify the Architect within five (5) days from receipt of same in order that proper adjustment may be made if found justifiable in the opinion of the Architect and the Owner. The Contractor shall assume full responsibility for all such work done without the approval of the Architect and the Owner

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

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

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

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

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor within 10 days after award of the Contract, shall notify the Owner and Architect in writing, of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Copies of all subcontractor contracts are to be provided to the Owner's Representative.

§ 5.2.2 Each Contractor shall not award any work to any subcontractor or supplier without prior written approval of the Architect and Owner's Representative. Approval will not be given until Contractor submits to the Architect a written statement concerning the proposed award to the sub-contractor. The statement shall contain such information as the Architect or Owner's Representative will require..

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner and Architect have no reasonable objections. No increase in the Contract Price shall be allowed where a subcontractor is rejected by the Architect or Owner who (1) is deemed unqualified to perform the particular work subcontracted by the Contractor, (2) has too many current projects handled by insufficient personnel, (3) does not have the necessary experience, personnel, equipment, plant and financial ability to complete the subcontract or (4) has a history of poor performance in work of similar nature.

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

(Paragraphs deleted)

§ 5.2.5 Notwithstanding any other provisions of the Contract Documents, Contractor shall perform at least Twenty-five (25) % of the field work by its own employees.

§ 5.2.5.1 For the purpose of the preceding paragraph, any part of the work performed by supervisory personnel (persons above level of foreman) or by the office personnel and such items as bonds, certificates, shop drawings and similar items shall not be considered part of the percentage of work required to be performed by the Contractor's employees.

§ 5.3 Sub-Contractual Relations

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract

Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors. The agreement between the Contractor and Subcontractor shall not provide, nor shall the Contract Documents be deemed to provide, any rights, remedies or redress by the Subcontractor(s) against the Owner.

§ 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.

Upon such acceptance of the assignment of a subcontract, the Owner shall only be required to compensate the Subcontractor for compensation accruing to the Subcontractor for Work done or materials delivered after the date on which the Owner accepts the assignment of the subcontract. All sums due and owing by the Contractor to the Subcontractor for work performed or material supplied prior to the Owner's acceptance of the subcontract agreement shall constitute a debt between the Subcontractor and the Contractor. When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract that accrue after the Owners acceptance of the assignment.

§ 5.4.2 Intentionally omitted.

§ 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.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors. Should any Contractor sustain any damage or delay through any act or omission of any other Contractor having a contract with the Owner for the delivery and/or the installation of materials, supplies, equipment, plant, or appliances, or should the Contractor sustain any damage or delay through any act or omission of a subcontractor, the Contractor shall have no claim against the Owner or their Architects for such damage or delay, but shall have a right to recover or to claim such damage only from the other Contractor or subcontractor.

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

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

Init.

(Paragraph deleted)

§ 6.2 Mutual Responsibility

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

§ 6.2.1.1 The Contractor shall coordinate and supervise the work performed by its employees, Subcontractors and all others engaged directly or indirectly by the Contractor to perform the Work to the end that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work.

§ 6.2.1.2 In the case of interference between the operations of different Contractors, the Architect and/or Owner will be the sole judge of the rights of each Contractor and shall have the authority to decide in what manner the Work may proceed, and in all cases its decision shall be final.

§ 6.2.1.3 The Contractor, including its Subcontractors, shall keep itself informed of the progress of other contractors and shall notify the Architect and the Owner immediately in writing of lack of progress on the part of another contractor where such lack of progress will interfere with the Contractor's own operations. Failure of the Contractor to keep informed of the work progressing on the Project and failure to give notice of the lack of progress by others shall be construed as acceptance by the Contractor of the status of the Work as being satisfactory for proper coordination with the Contractor's own work.

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

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

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

§ 6.2.4.1 Delays or oversights on the part of any Contractor or Subcontractor in getting any or all of their work done, thereby causing cutting, removing and replacement of Work already in place, shall not be the basis for a claim for extra compensation by such Contractor.

§ 6.2.5 Claims and other disputes and matters in question between the Contractor and a separate contractor shall be subject to the provisions of Article 15.

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

amounts for a particular change not in installments for each trade thereafter. All partial change order submissions will be rejected and returned to each Contractor for completion.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone. No Change Order or Construction Change Directive shall become effective unless and until it is approved by the Owner in writing.

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

§ 7.2 Change Orders

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

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.
- .4 In cases where allowances are shown on the bid form and accepted by the Owner, they shall be used to determine the amount of addition to or deduction from the Contract Price. The unit prices or allowances when mutually agreed to be fair and equitable by Owner and Contractor will be made part of the Agreement.

§ 7.2.2 Final determination of all change orders shall be by the Owner.

§ 7.2.3 A fully-executed Change Order shall constitute a final settlement of all matters relating to the change in the Contractor's Work reflected in the Change Order, including but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contractor's Contract Sum, Contract Time and the construction schedule.

§ 7.3 Construction Change Directives

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

§ 7.3.1.1 If the Construction Change Directive involves an adjustment to the contract price, the adjustment will be computed by the Architect in form conforming to 7.3.3.4.

§ 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 Section 01 2100 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 All additions and deductions to the Contract Price not covered by unit prices resulting from changes in the Work shall be determined by the following outline:

CONTRACT WORK

- a. Materials (Itemized Breakdown) _____
- b. Rent of Equipment (Listed separately) _____

Sub-Total #1(items a & b) _____

Init.

- c. Sales Taxes (where applicable on Sub-Total #1) _____
- d. Labor (Itemized Breakdown) _____
- e. Insurance (Workmen's Compensation
Social security or as otherwise
required and/or specified) _____
- Sub-Total #2** (items c, d & e) _____
- f. Overhead & Profit (% x Sub-Total #2)
As per Article 7.3. _____
- g. Sub-contract Work
(If applicable, in identical breakdown,
as shown above Sub-Total #1 & 2) _____
- h. Contractor's overhead & profit
on sub-contract changes (5%) _____
- Sub-Total #3** (items f, g & h) _____
- i. **TOTAL QUOTATION** (Sub totals 1, 2, 3) _____

§ 7.3.3.1 Change Orders shall be submitted in total amounts for a particular change, not in installments for each trade thereafter. All partial change order submissions will be rejected and returned to the Contractor for completion.

- .1 Overhead and profit combined, included in the total cost to the Owner, shall be based on the following schedule:
 - For the Contractor, for any Work performed by the Contractor's own forces, ten percent (10%) of the cost.
 - For the Contractor, for Work performed by Contractor's sub-contractor, five percent (5%) of the amount due the sub-contractor.
 - For each sub-contractor or sub-contractor involved, ten percent (10%) of the cost
- .2 Cost to which overhead and profit is to be applied shall be limited to the following:
 - Labor.
 - Cost of Materials, including sales tax and cost of delivery.
 - Workers' or Workmen's Compensation Insurance.
 - Rental value of equipment and machinery.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

(Paragraphs deleted) § 7.3.4.1 In order to facilitate checking of quotations for extras or credits, all proposals, shall be accompanied by a complete itemization of costs including labor, materials and sub-contracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are sub-contracts, they shall be itemized also. All change orders without such itemization will be returned to the Contractor for resubmission

§ 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. Failure to timely file any claim in accordance with the requirements set forth therein shall constitute a waiver of such claim.

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

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

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

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work, not in dispute and completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

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

§ 7.4 Minor Changes in the Work

§7.4.1 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. The work included in such order shall be performed by the Contractor at no additional cost to the Owner and shall not form the basis for a claim for an extension of the Contractor's time to complete its Work. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time. The Contractor shall perform the work included in such orders so as to cause no delay to its Work and/or the work of other contractors engaged by the Owner in connection with the Project

§7.4.2 Minor Changes in the work are not to be construed as Change Orders. A signed minor change is not an approved change order.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work. The date shall not be postponed or extended due to the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.

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

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

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

§ 8.1.5 Dates indicated in Section 01 1000 Summary of Work 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 are of the essence and shall have the same meaning as Substantial Completion for the purpose of Liquidated Damages in this Article 8. Liquidated damages applied to Substantial Completion shall apply to Milestone Dates.

§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by 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 or (3) by other causes that the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine. No extension of time will be granted for changes in the Work or labor disputes, or work stoppage due to asbestos removal. This paragraph shall control where a conflict appears among the Contract Documents.

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

§ 8.3.3 Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent permitted under Paragraph 8.3.1, shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the work, (3) loss of productivity, or (4) other similar claims (collectively referred to in this Paragraph 8.3.3 as delays) whether or not such delays are foreseeable, unless a delay is caused by acts of the Owner constituting active interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Owner with notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damages, in connection with any delay, including, without limitation, consequential damages, lost opportunity costs, impact damages or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the work, or directing suspension, rescheduling or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work.

§ 8.3.4 The Contractor acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay (1) is not caused, or could not have been anticipated, by the Contractor, (2) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay, (3) is of a duration not less than one day and the Contractor has made all reasonable efforts to recover the alleged lost time. No extension of time will be granted for changes in the Work for labor disputes, picketing, hand billing refusal to deliver, work stoppages due to asbestos removal or stoppages not authorized by the Owner.

§ 8.3.5 An extension of time may be granted pursuant to this Section 8.3 but only after written application therefor by the Contractor. All claims for additional time shall be supported by documentation which demonstrates to the Architect and the Owner's satisfaction that the critical path of the Work has been significantly altered by the delays to the activities in question, and that the schedule cannot be maintained by re-ordering other activities within the Project at no cost. Upon receipt of the Contractor's request for an extension of time, the Architect will ascertain the facts and extent of the delay, and based on which the Owner may, in its sole discretion, extend the time for completion of the Contractor's Work when in its judgement such an extension is justified. The Owner's determination will be final and binding in any litigation commenced by the Contractor against the Owner which arises out of the Owner's denial of an extension of time to the Contractor. Any approval of an extension of the Contractor's time to complete its Work shall be memorialized by written change order, signed by the Owner, Contractor and Architect.

§ 8.3.6 An extension of time shall be only for the number of days of delay which the Architect may determine to be due solely to the causes set forth in the application for extension of time. The Contractor shall not be entitled to receive a separate extension of time for each one of several causes of delay operating concurrently, but if at all, only the actual period of delay as determined by the Architect.

§ 8.3.7 When the Contract Time has been extended, as provided under this Paragraph 8.3.1, such extension of time shall not be a basis for any extra compensation to the Contractor for administrative costs or otherwise.

§8.4 LIQUIDATED DAMAGES

8.4.1 Contractor realizes that time is of the essence on this Contract and the date of Substantial Completion shall be no later than the date set forth in Article 3 of the Contract. The Contractor understands that substantial disruption of the Owner's educational process will occur if the Project is not completed by the date of substantial completion. In the event the Contractor fails to substantially complete the Work under this contract by said scheduled date(s), the sum per calendar day, as follows:

Contracts having a value of \$50,000 to \$250,000	\$500 per day
Contracts having a value of \$250,001 to \$5,000,000	\$1,000 per day
Contracts having a value in excess of \$5,000,000	\$1,500.00 per day

and will, at the sole discretion of the Owner, be subtracted from the payment due the Contractor (or, if the amount due the Contractor as Payment is insufficient, any deficiency shall be paid by the Contractor to the Owner), except in cases where a delay is due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Government, in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, freight embargoes, or delays of Subcontractors or Suppliers due to such causes. Delay in acquisition of materials other than by reason of or freight embargoes imposed after submission of bids for the contract awarded will not constitute a delay excusable under this provision unless approved by the Owner in writing. Dates indicated in Section 01 1000 Summary of Work 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 are of the essence and shall have the same meaning as Substantial Completion for the purpose of Liquidated Damages in this Section 8.4. Liquidated damages applied to Substantial Completion shall apply to Milestone Dates.

§8.4.2 Within five calendar days from the occurrence of any such delay, the Contractor shall notify the Architect and the Owner, in writing, of the cause of delay. The Architect will ascertain the facts and extent of the delay, and based on this the Owner, in its sole discretion, may extend the time for completing the Work when, in his judgment, the findings of fact justify such an extension. The Owner's findings of fact will be final.

§8.4.3 In addition to Liquidated Damages, the Contractor shall be liable for all additional costs incurred by the Owner due to the failure of the Contractor to complete each Phase as required. The additional costs shall include but not be limited to the following:

§8.4.3.1 Staff, as required, to make the facility accessible to the contractor; for the Architect and Consultants to perform services in connection with the Project, including but not limited to inspections after the substantial completion date of each phase. Expenses and costs incurred by the Owner for additional services of the Owner's Representative, in addition to additional inspections.

§8.4.3.2 The cost of additional inspections by the Architect and their consultants will be at the rate of \$300.00 per hour.

§8.4.4 The said sum per calendar day and additional costs set out above, shall constitute the Liquidated Damages incurred by the Owner for each day of delay beyond the agreed upon dates of substantial completion. Such Liquidated Damages shall be in addition to any other damages (other than reason of delay) Owner may incur as a result of Contractor's breach of Contract.

§8.4.5 In addition to the liquidated damages described above, in the event the Contractor fails to complete all work under this Contract by said Scheduled Dates, the Contractor will, at the sole discretion of the Owner, not be permitted to perform any work during normal school hours. Such work shall only be performed after hours, Saturdays, Sundays, holidays or periods when the facility is unoccupied, at no additional cost to the Owner. This paragraph in no way limits any other rights, or remedies of the Owner under this Contract.

§8.4.6 All costs will be subtracted from payment due the Contractor or, if the amount due the Contractor for payment is insufficient, any deficiency shall be paid by the Contractor to the Owner.

§8.4.7 This section shall in no way prevent the Owner from enforcing any other remedies it may be entitled to pursuant to the Contract, including the right of termination, and in the cases of termination, any damages suffered by the Owner shall not be considered damages by reason of delay, regardless of the reason for termination.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum (Refer to Section 01 2000 Price and Payment Procedures for additional requirements)

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

§ 9.1.2 If Unit Cost Allowances 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. Refer to Section 01 2100.

§ 9.1.3 Notwithstanding anything to the contrary contained in the Contract Documents, the Owner may withhold any payments to the Contractor if and for so long as the Contractor fails to perform any of its obligations or otherwise is in default under any of the Contract Documents; provided, however, that any such hold back shall be limited to an amount sufficient in the reasonable opinion of the Owner to cure any such default or failure of performance by the Contractor.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work.

§ 9.3 Applications for Payment

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

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives.

§ 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.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and installed. If approved in advance by the Owner, payment may be made for materials and equipment suitably stored on the site; however, such payments shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such material and equipment or to otherwise protect the Owner's interest, which shall include applicable insurance and storage. 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 All materials and equipment, including materials and equipment stored on-site but not installed, or stored in secured warehouse) will require a bill of lading showing the exact value and, upon which partial payments have been made shall become the property of the Owner, but the care and protection of such materials and equipment shall remain the responsibility of the Contractor until incorporation and approved into the Work, including maintaining insurance coverage on a replacement cost basis without voluntary deductible.

Notwithstanding payment by the Owner, all warranties and/or guarantees required by the Contract Documents shall not begin to run until the Contractor has completed its Work.

§ 9.3.2.2 In no case will more than 90% be approved if the item is not installed. Insurance certificates will be provided specific to materials stored (for on-site or offsite items).

§ 9.3.2.3 When Fuller and D'Angelo, P.C. or Owner's Representative requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

Init.

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

§ 9.3.4 Application for all Payments must be accompanied by certified payroll records and all releases of liens for previous applications **from Contractor and their subcontractors** and a sworn and notarized statement that all subcontractors have been paid to at least 95% of previously requisitioned sums. In the event a lien is filed on the Owner's property, by any entity, due to the actions of the Contractor, regardless of the relationship between the lien and the work performed on this project all payments will be held in abeyance until such lien is bonded or removed.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within ten business days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

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

§ 9.5 Decisions to Withhold Certification

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

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

- .10 failure of the Contractor and/or its Subcontractors to comply with the requirements for maintaining record drawings;
- .11 the Architect's discovery or observation of work which has been previously paid for by the Owner which is defective and/or incomplete;
- .12 such other acts and/or omissions by the Contractor in connection with the performance of its Work that do not comply with the Contract Documents; or
- .13 the amount requested exceeds the percent completion of work on the Project site(s).

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

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

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

§ 9.6 Progress Payments

§ 9.6.1 Refer to Section 01 2000 Price and Payment Procedures for additional requirements.

§ 9.6.1.1 Payment Period: Submit at intervals stipulated in the Agreement but not more than one per month.

§ 9.6.1.2 Form to be used: AIA G702 and AIA G703.

§ 9.6.1.3 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents and shall so notify the Architect. Notwithstanding the foregoing, the Owner may refuse to make payment on any Certificate for Payment due to any default in the Contract, including, but not limited to those defaults set forth in Section 9.5.1. The Owner shall not be deemed in default by reason of withholding payment while any Contractor default is uncured.

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

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

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

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

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

§ 9.6.7 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. The Contractor may substitute a surety bond for the Contract Sum against which the lien or other claim for payment has been asserted.

(Paragraph deleted)

§ 9.7 Failure of Payment

§ 9.7.1 If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within ten business days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within thirty business days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon ten additional business days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received.

§ 9.8 Substantial Completion

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

§ 9.8.1.1 Contractor shall advise the Construction Manager and Architect of pending insurance changeover requirements.

§ 9.8.1.2 Contractor shall obtain and submit releases permitting Owner's Representative and Architect unrestricted use of the Work and access to services and utilities, which shall include but are not limited to occupancy permits, operating certificates, and similar releases.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner's Representative and Architect a comprehensive list of items to be completed, or corrected, the value of items on the list, and reasons why the Work is not complete prior to final payment. The Contractor shall proceed promptly to complete and correct the items on the 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 Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Owner's Representative and Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Owner's Representative and Architect to determine Substantial Completion. **If the Architect is required to inspect the Contractor's work more than twice, the Contractor shall be back charged for the cost of the Architect's services for the additional inspections.**

§ 9.8.3.1 Certificate of Substantial Completion will be issued only after completion of all punch list items or Owner's Representative and Architect will notify Contractor of items, either punch list or additional items identified by Architect, that must be completed or corrected before a certificate will be issued. After completion of all punch list items submit the following:

- .1 Application for Payment showing 100 percent completion for portion of the Work claimed as substantially completed.
- .2 Manufacturer's Warranties/guarantees.
- .3 Contractor's Warrantee **Two (2)** years minimum and extended warranties.
- .4 Maintenance agreements, if any.
- .5 Manifest for disposal of Hazardous Material.
- .6 Manifest for disposal of material.
- .7 Test/adjust/balance reports and records.
- .8 Maintenance Manuals and Instructions Manuals
- .9 Signed Receipt by Owner's Representative of spare parts and attic stock.
- .10 Meter readings
- .11 Start-up performance reports.
- .12 Changeover information related to Owner's occupancy, use, operation, and maintenance.
- .13 Advice on shifting insurance coverage.
- .14 Final progress photographs.
- .15 List of incomplete Work, recognized as exceptions to Architect's "punch list".

Init.

- .16 Removal of temporary facilities and services.
- .17 Removal of surplus materials, rubbish and similar elements.
- .18 As Built Drawings.
- .19 Project Record Documents.
- .20 DOL Final Completion Form. (PW 200).
- .21 This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

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

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents. The Contractor understands that no retainage will be paid until all work, including punch lists items are complete and submission of all closeout documents as listed in Section 01 7800 Closeout Submittals are approved.

§ 9.9 Partial Occupancy or Use

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

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

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

§ 9.10 Final Completion and Final Payment

§ 9.10.1 The Date of Final Completion of the Work is the date all of the Work required under the Contract Documents is completed, all required materials (e.g. as built drawings, operations and maintenance manuals warranties, etc.) have been delivered to the Owner and all applicable licenses, permits, certificates or approvals have been obtained by the Contractor and delivered to the Owner to the extent required by the Contract Documents. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner's Representative and Architect will promptly make such inspection. When the Owner's Representative and Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Owner's Representative and Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.1.1 If the Contractor's Work is not accepted by the Architect after final inspection and additional time is required to complete items identified during the final inspection, the date starting the warranty periods described in the Contract Documents shall be set by the Architect at his discretion, but no later than the date of the Final Certificate for Payment.

§ 9.10.1.2 If the Architect is required to perform more than one final inspection because the Contractor's Work fails to comply with the requirements of the Contract Documents, the amount of compensation paid to the Architect by the Owner for additional inspections shall be deducted from the final payment to the Contractor.

§ 9.10.2 Neither final payment nor any retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) completion of all "punch list" items, (6) submission of all closeout documents as listed in Section 01 7800 Closeout Submittals, (7) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, (8) Architect's punch list certifying all punch list items have been completed with each item signed off by the Owner's Representative and Contractor, and (9) 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.

§ 9.10.2.1 It is understood by the Contractor that the maximum payment due the contractor prior to final payment shall be Ninety Five (95%) of the Contract amount and the final Five (5%) will be due only after the above is satisfied.

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

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment; or
- .5 defective work discovered after final payment or concealed conditions.

§ 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.

§ 9.11 APPLICATIONS FOR PAYMENT WHEN BEHIND SCHEDULE

§ 9.11.1 When the project falls behind schedule the contractor shall demonstrate the actions to be taken to put the project back on schedule.

§ 9.11.1.1 Payments will not be approved until satisfactory evidence is presented to put the project on schedule

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. Prior to beginning any work, the Contractor shall submit a copy of its safety plan to the Architect. The Contractor shall make the participation of its Subcontractors in its safety plan and program mandatory. The Contractor and its Subcontractors shall conduct their operations in accordance with the Safety Guides for Construction issued by New York State Education Department ("SED") and the Contractor's Safety Plan and Program.

§ 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, including but not limited to students, staff, volunteers and agents of the Owner and the Architect;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- .4 The work and operations of the Owner or other separate contractors or the property of the Owner and any other contractors working on the Project.

§ 10.2.1.1 The Contractor shall maintain at the project site MSDS documentation for all material brought on site.

§ 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 and shall comply with all applicable provisions of governing agencies (State, Federal and Municipal) as they affect the operations of the Work and insure that all machinery, openings, excavations and other physical hazards be guarded in accordance with OSHA requirements. In case of conflicts, the most stringent restrictions will apply.

§ 10.2.2.1 Any and all fines or citations levied against the Owner, Architect, or Owner's Representative due to the failure of the Contractor to comply with statutes, ordinances, codes, rules, regulations, or lawful orders of any governing authority, shall be paid for by the Contractor. This shall include any interest or late charges which accrue due to the Contractor's failure to remit payment upon receipt of such levies.

§ 10.2.2.2 Any reference made to rules and regulations promulgated by various governmental agencies within the Specifications or Construction Drawings are for the Contractor's benefit. Compliance with said rules and regulations by workers employed by the Contractor or by sub-contractors is the sole responsibility of the Contractor; and that, notwithstanding any reference to any rule or regulation, that the Architect, the Architect's construction observer (Clerk-of-the-Works) or any representatives or employees of the Owner is not assuming any duty to provide supervision of construction methods or processes.

- .1. Each Contractor shall assign one person from his staff to be on-site safety coordinator.
- .2 Each Contractor is solely responsible for overall job site safety, the safety of his employees and the conduct of his work and that of his sub-contractors.
- .3 Each Contractor affirms he is fully versed in all State, Federal and local regulations pertaining to safety, including OSHA regulations, and pertaining to any and all construction operations
- .4 All site personnel have appropriate Department of Labor certification.

§ 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.

§ 10.2.3.1 The Contractor shall be responsible for all costs incurred by the Owner caused by false security alarms and false fire alarms set off by the Contractor, its Subcontractors, employees, suppliers, officers, directors or servants.

Init.

§ 10.2.3.2 All safety equipment including but not limited to hard hats and other personal protective materials and equipment (masks, face shields, gloves, etc.) required for the Contractor to perform its work are to be supplied by the Contractor and/or its Subcontractors.

§ 10.2.3.4 The Contractor acknowledges that the Labor Law of the **State of New York**, and regulations adopted thereunder, place upon both the Owner and Contractor certain duties and that liability for failure to comply therewith is imposed on both the Owner and Contractor regardless of their respective fault. The Contractor hereby agrees that, as between the Owner and the Contractor, and to the extent permitted by law, the Contractor is solely responsible for compliance with all such laws and regulations imposed for the protection of persons performing the Contract. For additional indemnity obligations see Section 3.18 of these General Conditions.

§ 10.2.3.5 When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from injury by any cause.

§ 10.2.3.6 Construction areas which are under the control of a Contractor and therefore not occupied by the Owner's 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 any building in which construction is occurring. Periodic inspection and repair of the dust and contaminant barriers must be made to prevent exposure to dust or contaminants.

§ 10.2.3.7 The Contractor's operations shall not produce noise in excess of 60 dba in occupied spaces or shall be scheduled for times when building or affected building spaces are not occupied. The Contractor shall take acoustical abatement measures as needed to minimize the noise produced by its operations and to ensure no disruption to occupied spaces.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.4.1 When use or storage of hazardous materials or equipment or unusual construction methods are necessary to promulgate the Work, the Contractor shall give the Owner's Representative 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 property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, agents, or representatives of any of the above or by anyone for whose acts they may be liable and for which the Contractor is responsible. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents and for on-site safety. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect. The Contractor shall schedule safety meetings regularly and its Subcontractors must be represented at such meetings.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall 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 Owner shall only be responsible to pay for the services of the laboratory if the material or substance reported by the Contractor is found to be hazardous. When the material or substance has been identified the Contractor shall submit a proposal to abate the material. 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 Sum shall be increased by the amount of the Contractor's reasonable additional costs..

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused in whole or in part by negligent acts or omissions of the Owner, anyone directly or indirectly employed by the Owner or anyone for whose acts the Owner may be liable. .

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

(Paragraph deleted)

§ 10.4 Emergencies

In an emergency "immediately" 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. The word "immediately", for the purposes of this paragraph shall mean a time period which is less than the time it would take to notify the Owner's Representative of the emergency.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§11.1.1 All insurance purchased by Contractor shall constitute primary insurance and primary coverage for all risks insured and that any other liability insurance that the Owner or the Architect (Fuller and D'Angelo, P.C.) may procure or maintain is secondary and that there shall be no contribution by such insurance until insurance provided by the Contractor is exhausted. All policies shall be provided by insurers licensed to conduct business in New York State.

§11.1.1.1 The following insurance coverages and requirements must be provided by the contractor and evidence of same must be certified to the Owner, Owner's Representative and the Architect (Fuller & D'Angelo, P.C.) prior to

commencing any work under this contract, and original certificates of insurance, shall be furnished prior to the contract signing. The Contractor's coverage shall be primary and non-contributory coverage for the Owner, Owner's Representative, the Architect (Fuller and D'Angelo, P.C.), and Owner's Board of Education as well as each of their respective officers, members, directors, employees, and volunteers.

§ 11.1.1.2 The Contractor shall purchase from and maintain in a company or companies lawfully admitted to conduct business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed.
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees.
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees.
- .4 Claims for damages insured by usual personal injury liability coverage.
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom.
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle: and
- .7 Claims for bodily injury or property damage arising out of completed operations: and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§11.1.2 Certificates of Insurance:

- .1 Each certificate shall include the following clause: It is agreed that prior to any cancellation of, or material change in the policies certified to on this Certificate, 30 days written notice, by certified mail, return receipt requested, shall be sent to the Owner, Owner's Representative and Architect prior to the effective date of such change or cancellation.
- .2 Shall specifically describe the work to be performed by the Contractor that are covered by the liability policies and the job site location.
- .3 Shall include to the fullest extent permitted by law, the Contractor shall, defend, indemnify and hold harmless the Owner, Architect, Owner's Representative, their respective Consultants and their respective members, directors, officers, agents, employees, successors, and assigns (collectively "Indemnitees") from and against any and all losses, claims, costs, damages, expenses, and attorneys' fees, arising out of or resulting from the performance of the Work, or by Contractor's breach of this Agreement, except to the extent caused by the sole negligence or willful misconduct of any Indemnitee hereunder.
- .4 The Contractor and each of its Subcontractors and to all Shared Services Contracts (Purchase Order Agreements) shall include the Owner, Architect, and their Consultants as Additional Insureds on their casualty and commercial liability insurance policies on a primary and non-contributory basis, including a waiver of subrogation, acceptable to Owner, and shall not include any exclusions that limit the scope of coverage beyond that provided to the named insured and the endorsement shall not require a written agreement with the Additional Insureds.
- .5 Additional Insured status shall be provided by ISO endorsements CG 20 38 04 13, CG 20 38 (for on-going operations) and CG 20 37 (for product and completed operations). A completed copy of the endorsements must be attached to the Certificate of Insurance. The decision to accept an endorsement rests solely with the Owner.
- .6 A copy of the endorsement(s) providing additional insured sections must be attached to the Certificates.
- .7 A fully completed New York Construction Certificate of Liability Insurance Addendum (ACORD 855 2014/15) must be included with the certificates of insurance. Exclusions for Items G through L will not be accepted. For any "Yes" answers on Items G through L on this Form—additional details must be provided in writing.

- .8 Shall use the forms adopted and/or required by the New York State Workers' Compensation Board for proof of Workers' Compensation and NYS Disability Insurance, an ACORD certificate is not acceptable proof.
- .9 Renewal Certificates of Insurance: Renewal Certificates of Insurance must be filed with the Owner, Owner's Representative, Architect at least five (5) days prior to the expiration of any policy

(Paragraph deleted)

§11.1.3 The Contractor acknowledges that failure to obtain such insurance on behalf of the Owner constitutes a material breach of contract and subjects it to liability for damages, indemnification and all other legal remedies available to the Owner. The Contractor is to provide the Owner with a Certificate of Insurance, evidencing the requirements have been met, prior to the commencement of the work or use of the facilities. Failure to provide said insurance shall cause the immediate suspension of all work and possible cancellation of this contract.

§11.1.3.1 At the Owner's request, the Contractor shall provide a copy of the declaration page of the liability and umbrella/excess policies with a list of endorsements and forms. If requested, the Contractor will provide the Owner with a copy of the policy endorsements and forms.

(Paragraph deleted)

§11.1.4 The Contractor agrees to carry as a minimum the following insurance in such form and with such insurers as are satisfactory to the Owner covering the work hereof:

- .1 **Workmen's Compensation Insurance: Statutory Workmen's Compensation Insurance (C-105.2 or U-26.3) and NYS Disability Insurance (DB-120.1)** for all employees coverage as required by the State Law in which the project site is located, and in the state in which the Contractor is domicile, and licensed to do business, and for all of his employees to be engaged in work on the project under this contract, and in case such work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the employees to be engaged in such work. Provide Statuary Limits and Coverages. 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.
- .2 **Employers Liability Insurance:** Not less than \$1,000,000 for all employees to be engaged in work on the Project.
- .3 **Commercial General Liability Insurance** Including Premise/Operations, Independent Contractors, Products and Completed Operations, Broad Form Contractual, Broad Form Property Damage, Broad Form General Liability Endorsement and blanket coverage for underground hazards; X (explosion) C (collapse) U (underground).

Minimum Limits:

Each Occurrence/Aggregate:	\$1,000,000.00 /\$2,000,000.00
Products and Completed Operations	\$2,000,000.00
Personal and Advertising Injury:	\$1,000,000.00
Fire Damage (Damage to Rented):	\$100,000.00
Medical Expense:	\$10,000.00

(General Aggregate to apply on a per project basis).

Other Requirements: No Explosion, Underground, Collapse (XCU) exclusions.

- .4 **Bodily injury** including death arising from any occurrence for the period and time for this specific work contract, including any contractual agreement assuming liability of Owner by terms of contract agreement in an amount of not less than the amount as stated above.
 - a. Coverage and limits required in no way restrict or relieve the Contractor from the full and complete responsibility for all injuries and/or damages and it is suggested that the Contractor consult their agent or broker to be certain their coverage, in form and limits, is sufficient for their needs.
- .5 **Automobile Insurance.** Business Automobile liability insurance coverage format shall be as required by the state law in which any and all vehicles are registered, and must include all owned, hired, borrowed and non-owned vehicle es in the following amounts:

Minimum limits:

Bodily Injury -	\$1,000,000.00 each accident
Property Damage -	\$1,000,000.00 each accident
or a combined single limit of	\$1,000,000.00

Init.

- .6 Conditions of Coverage** Bodily Injury and Property Damage coverage under both General and Automobile Insurance shall include the "occurrence" basis wording. In the event of cancellation of insurance, the Owner shall be given advance notice of 30 days by the insured carrier and such to stipulated in the insurance contract.
- .7 Umbrella/Excess Liability Insurance.** \$5 million each Occurrence and Aggregate for general construction and no work at elevation (1 story – 10 feet) or project values less than or equal to \$1,000,000.
\$10 million each Occurrence and Aggregate for high-risk construction, work at elevation (>1 story or 10 feet) or project values greater than \$1,000,000.
Umbrella/Excess coverage shall be on a follow-form basis.
- .8 Self-Insured Retentions and insurance policy deductibles shall not exceed \$10,000.00 per occurrence.**
- .9 Owner Contractor Protective Liability Insurance (OCP):** The Contractor shall purchase and maintain an Owner's Protective Liability policy with the Owner as the named insured. The original and duplicate policy shall be filed with Owner and the policy shall remain in effect until the job is formally accepted by the Owner.

Limits of Liability for project up to 1,000,000. and work on 1 story (10 Feet) only:

\$1,000,000.00 each occurrence.

\$2,000,000.00 aggregate

Limits of Liability for project over 1,000,001 and work over 1 story (10Feet):

\$2,000,000.00 each occurrence

\$4,000,000.00 aggregate

- .10 Asbestos/Lead/Hazardous Materials Liability Insurance:** Shall include coverage for the Contractor's operations, including, but not limited to removal, replacement enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third-party liability claims for bodily injury, property damage and clean-up costs.
Minimum limits:

\$2,000,000 per occurrence/\$3,000,000 in the aggregate, including products and completed operations. If a retroactive date is used, it must pre-date the inception of the contract

If automobiles are to be used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage (ISO endorsement CA 9948) as well as proof of MCS 90

Coverage shall fulfill all requirements of this section and shall extend for a period of three (3) years following final completion of the Work.

Said policy shall be endorsed to indicate that the term "Insured" shall include the "Owner" Owner's Representative, and Architects and be deemed to include their authorities, boards, bureaus, departments and officers thereof in their official capacities.

Said policy shall be endorsed to indicate that the Contractor is solely responsible for the premium cost of the policy including any audit adjustments.

Said policy shall contain a 30-day notice of cancellation clause with said notice to be sent to the Owner, Owner's Representative, and Architects by certified mail.

- .11 Builders Risk:** The Contractor shall purchase and maintain throughout the course of the entire contract, and until final payment, a Builders Risk Policy providing a Builder's Risk Coverage Form or Builder's Risk Renovation Form in an amount equal to 100% of the total completed value (including all material and labor costs) and provide coverage for fire, lightning, explosion, extended coverage, vandalism, malicious mischief, windstorm, hail and flood.. Must include interest of the Owner and Contractor jointly in a form satisfactory to the Owner.

The coverage format shall be the "Special Coverage" form (all risk) naming the Owner and the Contractor. Loss, if any, shall be payable to the Owner as trustee for all interests. Contractor shall be solely responsible for the cost of any deductible.

- .12 **Flood Insurance:** for the work site with minimum limits of \$1,000,000 per occurrence/\$1,000,000 aggregate, Owner shall be named as an additional insured on the policy.
- .13 **Equipment, Tools and Supplies:** By signing this contract, the Contractor agrees and understands that he is solely responsible for all loss to any tools, equipment, or supplies, owned, rented, or leased, stored at or off the site. Further, the Contractor certifies that he has provided or will provide notice to this effect to all subcontractors and suppliers.
- .14 **Testing Company Errors and Omission Insurance:** \$1,000,000 per occurrence/\$2,000,000 aggregate for the testing and other professional acts of the Contractor performed under the Contract with the Owner.

(Paragraph deleted)

§11.1.5 Subcontractors Insurance: The Contractor agrees to provide all subcontractors with a copy of these insurance requirements and further, agrees to require all subcontractors, manufacturers and suppliers to provide evidence of insurance of the same coverage and limits as are required from the Contractor pursuant to Section 11.1.4.

§11.1.6 The Contractor shall maintain a separate record of each subcontractors' insurance certificates and said records shall be available for inspection by the Owner, Owner's Representative and Architect for a period of 2 years from the date of final acceptance.

(Paragraph deleted)

§11.1.7 The Contractor shall not permit any subcontractors on the site until acceptable certificates of insurance have been filed and approved.

§11.1.8 Waiver of Subrogation: All property insurance policies carried by the Contractor and his subcontractors shall contain a "Waiver of Subrogation" clause (including equipment floaters) to the effect that the Contractor agrees to waive all rights of subrogation against the Owner, Owner's Representative and Architect.

§11.1.9 The signing of this contract acknowledges that the Contractors have notified their insurance carriers of the insurance requirements contained in this Article 11.

§11.1.10 Renewal Certificates of Insurance: Renewal Certificates of Insurance must be filed with the Owner, Owner's Representative and Architect at least 5 days prior to the expiration of any policy

§11.1.11 Job Safety: The Contractor shall assign one person from his staff to be on the job site safety coordinator. The Contractor is solely responsible for overall job site safety, the safety of his employees and the conduct of his work and that of his subcontractors.

§11.1.11.1 The Contractor agrees to cooperate and comply in full with the insurance representatives of the Owner, Owner's Representative and Architect, with respect to any safety recommendations or requirements.

§11.1.11.2 The Contractor affirms he is fully versed in all State, Federal and local regulations pertaining to safety including OSHA and Department of Labor regulations, pertaining to his trade and construction operations.

§11.1.12 Products, Completed Operations: The Contractor is required to, and agrees to carry Products and Completed Operations coverage.

§11.1.13 Certificates of Insurance shall be filed annually with the Owner, Owner's Representative, Architect and the Contractor shall obtain and record like certificates from his subcontractors. If the Contractor fails to obtain the required certificates of insurance from a subcontractor and a claim is made or suffered, the Contractor shall indemnify, defend and hold harmless the Owner, its Board of Education, employees and volunteers from any and all claims for which the required insurance would have provided coverage. This indemnity obligation is in addition to any other indemnity obligation provided in the Contract Documents and shall survive the termination of the Contract.

§11.1.14 Insurance Carriers: All insurance carriers providing coverage on the project must be **licensed** to conduct business and issue the type of insurer the carrier is providing to the Contractor in the State in which the project is located, and in the State in which the Contractor is domicile. The companies must be **A. M. Best A-** rated or better insurer. This requirement applies to all subcontractors as well.

11.1.15 If at any time, any policy required herein shall be or become unsatisfactory to the Owner, as to form or substance, or if the issuing company shall be or become unsatisfactory, the Contractor, upon written notice from the Owner, shall promptly replace said unsatisfactory insurance.

§11.1.16 If the Contractor fails to provide, maintain or deliver satisfactory insurance during this project, at the election of the Owner, the contract maybe declared suspended, discontinued, or terminated.

§11.1.17 Failure to provide and maintain proper insurance under this contract shall not relieve, nor be construed to conflict with or otherwise limit the contractual obligations of the Contractor

§11.1.18 In the event that any claims, or claims aggregate be in excess of the insured amounts, filed by reasons of any operations under this contract, the Owner, at its sole opinion, may withhold from payments due or to become due the Contractor amounts equal to the excess of such claims, until the Contractor has provided evidence of additional financial security covering such claims, in a form satisfactory to the Owner.

§11.1.19 All the policies of insurance referred to in this Article 11 shall be issued in the names of the Owners, the Architect, the General Contractor, and his subcontractors. Said policy shall be endorsed to indicate that the term "Insured" shall include the Owner, Construction Manager, Architect and be deemed to include their authorities, boards, bureaus, departments and officers thereof in their official capacities. In all cases regarding insurance referred to in these specifications, certificates shall be provided to the Owners, Owner's Representative and Architect.

§11.1.19.1 In the event that any of the insurance coverage to be provided by the Contractor to the Owner and Architect contains a deductible or self-insured retention, or the insurance provided by the Owner and Architect contains a deductible or self-insured retention, the Contractor shall indemnify and hold the Owner and the Architect harmless from the payment of such deductible or self-insured retention, for all claims arising from any acts or omissions of Contractor or Contractor's officers, directors, employees, Subcontractors, suppliers or any others engaged by Contractor directly or indirectly to perform Contractor's Work on the Project, which deductible or self-insured retention shall in all circumstances remain the sole obligation and expense of the Contractor.

§ 11.1.20 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. Refer to Section 00 6000 Bonds and Certificates.

11.1.21 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.

§ 11.1.22 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 written notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner or Owner's Representative 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 be responsible for purchasing and maintaining the Owner's usual liability insurance.

(Paragraphs deleted)

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such

Init.

insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 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.

§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 Owner's Representative, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and

replacement, and compensation for the Owner's Representative and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If prior to the date of Substantial Completion, the Contractor, a subcontractor or anyone for whom either is responsible uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within two years 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. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The two-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 two-year period for correction of Work shall be extended by corrective Work performed by the Contractor pursuant to this Section 12.2 except as to the corrective work performed and subject to the continued existence of any manufacturer's warranty, if applicable.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the two-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

§ 12.3.1 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 affected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

§ 13.1.1 This Contract shall be governed by and interpreted in accordance with the substantive laws of the State where the Project is located without recourse to principles of choice of law. The venue of any dispute resolution proceedings or actions shall be in the county in which the Project is located.

§ 13.1.1.1 The Contractor shall at all times observe and comply with all Federal, State and Local Laws, rules and regulations and all policies, rules, regulations and protocols of the Owner, in any manner affecting the Work and all such orders as exist at present and those which may be enacted in the future, by bodies or tribunals having jurisdiction or authority over the Work and the Contractor shall indemnify and save harmless the Owner and its Board of Education, Owner's Representative, Architect employees, officers, agents, or servants against any claim or liability arising from, or based on, a violation of any such law, ordinances, regulation, order or decree by the Contractor or the Contractor's officers, directors, employees, Subcontractors and suppliers.

§ 13.1.1.2. Historical lack of enforcement of any law, local or otherwise, shall not constitute a waiver of Contractor's responsibility for compliance with such law in a manner consistent with the Contract Documents unless and until the Contractor has received written consent for the waiver of such compliance from the Owner.

§ 13.1.2 The Contractor specifically agrees, as required by New York Labor Law, Sections 220, and 220-d, as amended, that:

- .1 No laborer, workman or mechanic in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or any part of the Work contemplated by the Contract, shall be permitted or required to work more than eight hours in any one calendar day or more than five days in any one week, except in the emergencies set forth in the Labor Law.
- .2 The wages paid for a legal day's work shall not be less than the prevailing rate of wages as defined by law.
- .3 The minimum hourly rate of wages to be paid shall not be less than that stated in the Specifications, and any redetermination of the prevailing rate of wages after the Contract is approved shall be deemed to be incorporated therein by reference as of the effective date of redetermination and shall form a part of this Contract. The Labor Law provides that the Contract may be forfeited, and no sum paid for any work done thereunder on a second conviction for willfully paying less than:
 - (a) The stipulated wage scale as provided in Labor Law, Section 220, Subdivision 3, as amended; or
 - (b) The stipulated minimum hourly wage scale as provided in Labor Law, Section 220-d, as amended

§ 13.1.3 The Contractor specifically agrees, as required by the provisions of New York Labor Law Section 220-e, as amended, with respect to operations performed within the territorial limits of New York State, that:

- .1 In hiring of employees for the performance of work under this Contract or any subcontract hereunder, or for the manufacture, sale or distribution of materials, equipment or supplies hereunder, no Contractor, Subcontractor nor any person acting on behalf of such Contractor or 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.
- .2 No Contractor, Subcontractor, nor any person on his 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.
- .3 There may be deducted from the amount payable to the Contractor by the Owner under this Contract a penalty of fifty (\$50.00) dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of this Section 13.1.3.
- .4 The Contract may be cancelled or terminated and all monies due under the Contract forfeited for a second or any subsequent violation of the terms and conditions set forth in this Section 13.1.3.

§ 13.1.4 The Contractor shall comply with all the provisions of the Immigration Reform and Control Act of 1986 and regulations promulgated pursuant thereto and shall require its Subcontractors to comply with same. The Contractor shall and does hereby agree to fully indemnify, protect, defend, and hold harmless the Owner, Owner's Board of Education, Owner's Representative,, Architect, agents and employees from and against any penalties, fees, costs, liabilities, suits, claims, or expenses of any kind or nature, including reasonable attorney's fees, arising out of or resulting from any violation or alleged violation of the provisions of said laws by Contractor or its Subcontractor(s) in connection with the Work of the Contract Documents.

§ 13.1.5 The Contractor shall maintain policies of employment as follows:

- .1 The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of age, creed, race, religion, color, sex, national origin, sexual orientation, gender identify or expression, military status, disability, predisposing genetic characteristics, familial status, marital status or status as a victim of domestic violence. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their age, race, creed, religion color, sex, national origin, sexual orientation, gender identify or expression, military status, disability, predisposing genetic characteristics, familial status, marital status or status as a victim of domestic violence. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or

transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

- .2 The Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to age, creed, race, religion, color, sex, national origin, sexual orientation, gender identify or expression, military status, disability, predisposing genetic characteristics, familial status, marital status or status as a victim of domestic violence.

§ 13.1.6 Dust Hazards - The Contract shall be void if the Contractor fails to install, maintain, and effectively operate appliances and methods for the elimination of harmful dust when a harmful dust shall have been identified in accordance with Section 222-a of the Labor Law of the State of New York.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies and Written Notice

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law or in equity or by other agreement and such rights and remedies shall survive acceptance of the Contractor's Work and/or any termination of the Contract.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.3.3 Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice. Notice deposited in the mail in accordance with the provisions hereof shall be effective unless otherwise stated in the Contract from and after the fourth (4th) day following the date deposited in a U.S. Mail receptacle or when actually received, whichever is earlier. Notices transmitted by courier service shall be effective the day following posting (or the following Monday, if the day of posting is a Friday or Saturday). Notice given by personal service shall be effective only when received by the party to be notified. All notices to be given to the parties hereto shall be sent to or made at the addresses set forth in the Contract. By giving the other parties at least seven (7) days' written notice thereof, the parties hereto shall have the right to change their respective addresses and specify as their respective addresses for the purposes hereof any other address in the United States of America.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures.. Refer to Section 01 4000 Quality Requirements for additional requirements.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor, and promptly delivered to the Architect.

§ 13.4.5 If the Owner's Representative or the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

(Paragraphs deleted)

§ 13.5 Payments due and unpaid under the Contract Documents shall not bear interest.

§ 13.6 TIME LIMITS ON CLAIMS

§ 13.6.1 The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law.

§ 13.7 LIENS

§ 13.7.1 If the Contractor or any of its subcontractors or suppliers should cause a Mechanic's Lien to be placed upon the property or Contract Sum, then the Contractor shall be liable for any and all legal or bonding or insurance fees related to the removal of the Mechanic's Lien or the defense of any Mechanic's Lien enforcement or foreclosure proceeding. Such legal or bonding or insurance fees shall also be a deduction by the Owner from any moneys due or to become due to the Contractor.

§ 13.8 SEXUAL HARASSMENT PROHIBITED

§ 13.8.1 Federal and state laws and the policies of the Owner prohibit sexual harassment of employees. Sexual harassment includes any unwelcome sexual advances, requests for sexual favors or other verbal or physical conduct of a sexual nature that create a hostile or offensive working environment for students, employees and volunteers of the Owner and employees, agents, consultants, suppliers, subcontractors and others engaged directly or indirectly by Contractor to perform work on the Projects. The Contractor shall exercise control over its employees, agents, consultants, subcontractors, and suppliers so as to prohibit acts of sexual harassment of students, employees and volunteers of the Owner. In the event the Owner, in its reasonable judgment, determines that the Contractor or its employees, agents, consultants, subcontractors and/or suppliers have committed an act of sexual harassment, upon notice from the Owner, the Contractor shall cause such person to be removed and shall take such other action as may be reasonably necessary to cause such sexual harassment to cease. In the event the Contractor or its employees, agents, Subcontractors or suppliers believes it has been the subject of sexual harassment by the Owner, its elected and appointed officials, students, volunteers, vendors, employees or agents, it shall give notice to the Owner; so, the Owner can take such action as may be reasonably necessary to cause any sexual harassment to cease.

§ 13.9 GENERAL PROVISIONS

§ 13.9.1 Contractor hereto agrees to do all acts and things and to make, execute and deliver such written instruments, as shall from time be reasonably required to carry out the terms and provisions of the Contract Documents.

§ 13.9.2 Contractor is obligated, by virtue of entering into a contract with the Owner, to ensure that absolutely no asbestos containing material is used in conjunction with the Work. It is the Contractor's sole responsibility to provide assurance that no asbestos containing material is built into the construction, nor does any equipment used in the construction contain any asbestos containing material. If asbestos containing material is found, at any time during or after the construction is completed, it shall be the responsibility of the Contractor who installed said material to remove it and replace it with new non-asbestos containing material, as per federal, state and local mandates, and to indemnify all their employees, agents, or servants or any third parties including but not limited to the Owner and the Architect, and their respective servants or employees for any costs or damages incurred on account of personal injury or death or property damage caused by, arising out of, or in any way incidental to, or in connection with the performance of the Work hereunder. This provision will be limited only to the extent required by law and shall survive the termination or expiration of the Contract. Refer to Section 01 7800 Closeout Submittals for additional requirements.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents.

§ 14.1.2 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

(Paragraphs 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 suitable 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; or
- .4 refuses to correct defective work performed by it;
- .5 fails to satisfy or bond any filed liens against the Owner's property or contract funds, which arise from the performance of the Contractor's Contract;
- .6 disregards the instructions of the Architect or the Owner (when such instructions are based on the requirements of the Contract Documents);
- .7 breaches any warranty made by the Contractor under or pursuant to the Contract Documents;
- .8 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Contract Documents;
- .9 fails after commencement of the Work to proceed continuously with the construction and completion of the Work for more than ten (10) days, except as permitted under the Contract Documents;
- .10 fails or neglects to prosecute the Work in such a manner to reasonably assure completion within the contract time;
- .11 fails to keep the Project free from strikes, work stoppages, slowdowns, lockouts or other disruptive activity; or
- .12 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, three 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; and

(Paragraph deleted)

- .2 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished and the Contractor will be back charged for all costs incurred by the Owner.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 The Owner may take over the work for one of the reasons stated in sub-paragraph 14.2.1 after giving the Contractor and the Contractor's Surety, if any, three days' written notice. The Contractor will be back charged for costs incurred by the Owner.

§ 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 by giving three (3) days written notice to Contractor describing in general the portion of the Contractor's Work that is suspended, delayed or interrupted and the effective date of such delay, suspension or interruption.

(Paragraphs deleted)

§ 14.3.2 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.

§ 14.3.3 The Owner shall incur no liability to Contractor by reason of such suspension, delay, or interruption except that Contractor may request an extension of its time to complete its Work in accordance with the Contract Documents.

§ 14.3.4 When all or a portion of the Contractor's Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from injury by any cause.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate any part of the Contractor's Work or all of the Contractor's remaining Work for the Owner's convenience and without cause by giving written notice to the Contractor, describing the portion of the Contractor's Work to be terminated and the effective date of termination.

§ 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;
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders for materials, labor, services or facilities for the Work that is terminated; and
- .4 proceed to complete the performance of the remaining Work on the Contract which has not been so terminated

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; and any deposits or down payments which the Contractor has made pursuant to the Agreement which cannot, in the exercise of good faith and due diligence by the Contractor, be refunded or applied as a credit in

the Contractor's favor to other charges, provided, however, that if such deposits or down payments are not refundable, Contractor shall assign the applicable contract, agreement, purchase order, etc. to the Owner who, at its election, may require performance of same. The Contractor hereby waives and forfeits all other Claims for payment and damages, including, without limitation, overhead and profit related to Work terminated by the Owner pursuant to this Section 14.4.

§ 14.4.4 In case of a termination pursuant to this Section 14.4, the Owner will issue a Construction Change Directive or authorize a Change Order, making any required adjustment to the Date of Substantial Completion and/or the sum of Contract monies remaining to be paid to the Contractor. The Owner shall be credited for (1) payments previously made to the Contractor for the terminated portion of the Work, (2) Claims which the Owner has against the Contractor under the Contract, and (3) the value of the materials, supplies, equipment or other items that are to be disposed of by the Contractor that are part of the Contract Sum, multiplied by 15% representing the Contractor's overhead and profit.

§ 14.4.5 For the remaining portions of the Contractor's Work which have not been terminated pursuant to this Section 14.4, the terms and conditions of the Contract with the Owner shall remain in full force and effect. The Contractor shall continue to prosecute that portion of its Work that was not terminated pursuant to this Section 14.4.

§ 14.5 Limitation of Owner's Liability

§ 14.5.1 The Owner shall not be responsible for damages or for loss of anticipated profits on Work not performed on account of any termination of the Contractor by it.

§ 14.5.2 The Owner shall not be liable to the Contractor for punitive damages on account of any termination of the Contractor and the Contractor hereby expressly waives its right to claim such damages against the Owner.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 **Definition** A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents. As is set forth in other provisions of this Contract, delay in the Contractor's ability to complete the work may, in appropriate circumstances, give rise to a claim for additional time, but will under no circumstances be the basis of a claim for damages.

(Paragraphs deleted)

§ 15.1.2 **Time Limits on Claims.** 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.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the 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 Owner and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by the Contractor under this Section 15.1.3.1 shall be initiated within ten days after occurrence of the event giving rise to such Claim or within 10 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by the 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 the Owner. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

(Paragraphs 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 Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

(Paragraphs deleted)

§ 15.1.7 **Waiver of Claims for Consequential Damages.** The timelines provided herein for the making of claims shall be a condition precedent to any payment for such claims or the granting of any extension of time. Failure of the Contractor to comply with the time and notice provisions of this Article shall be an absolute bar to making any payment to or extending the time of the Contractor for such claim. All claims of any type seeking any monies, or an extension of time shall be accompanied by full documentation. A claim submittal without full documentation shall be rejected by the Architect and, if not timely resubmitted within the original claim period, as set forth above, shall be waived. 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 income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit.

The Owner reserves the right to seek damages incurred by the Owner for rental of facilities and loss of use of the Project site in the event the Work is not completed in accordance with the Milestone Schedule in the Contract Documents.

§ 15.1.8 The Owner shall not be responsible for damages or for loss of anticipated profits on Work not performed on account of any termination of the Contractor by the Owner or by virtue of the Owner's exercise of its right to take over the Contractor's Work pursuant to the Contract Documents.

§ 15.1.9 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 or omissions of the Owner or the Architect.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. A decision by the Architect shall be required as a condition precedent to the **Owner making any payment or granting any extension of time on any claims between the Contractor and Owner arising prior to the date final payment is due**. 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 a decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties..

§ 15.2.6 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.

(Paragraph deleted)

§ 15.2.7 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.

(Paragraph deleted)

§ 15.3 Mediation

(Paragraph deleted)

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract shall be subject to non-binding mediation.

§ 15.3.2 The parties agree that claims, disputes or other matters in question between the parties to this Agreement, arising out of or relating to this Agreement or the breach thereof shall, before the commencement of litigation or a party availing itself of self-help remedies, be submitted to a third party neutral Mediator agreed to by both parties or, if the parties cannot agree, appointed by the American Arbitration Association, at a non-binding Mediation that shall not exceed one calendar day. The parties may be represented by counsel at the Mediation, but no party may engage the Mediator as its representative after the Mediation. Statements made and documents provided or exchanged as part of the Mediation shall be for settlement purposes only and subject to the applicable rules or regulations that govern such matters. All mediation shall take place within 30 days of any demand for same of and cost shall be shared by both parties.

(Paragraphs deleted)

§ 15.4 Arbitration

§ 15.4.1 The Contractor and the Owner shall not be obligated to resolve any claim or dispute related to the contract by arbitration; any reference to arbitration in the Contract Documents is deemed void. If a discrepancy is found in the Contract Documents, this paragraph shall be considered the final say.

(Paragraphs deleted)

ARTICLE 16 - NO DAMAGES FOR DELAY

§16.1 Notwithstanding any other terms or conditions set forth in the Contract Documents, including these General Conditions or any supplementary conditions, the Contractor agrees to make no claim for damages for delay in the performance of the Work occasioned by any act or omission of the Owner or any of its representatives, and agrees that any such claim shall be fully compensated for by an extension of time to complete the Work, unless a delay is caused by acts of the Owner constituting active interference with the Contractor's performance of the Work, and then only to the extent such acts continue after the Contractor furnishes the Owner with notice of such interference. The Contractor

Init.

hereby expressly assumes the risk of all such delays to the Work, unless the Contract Schedule is extended for excusable delays.

§16.2 Contractor agrees and acknowledges that payment for the Work may have been obtained through obligations or bonds which have been sold after public referendum. In the event the Work is suspended or canceled as a result of the order of any court, agency, department entity or individual having jurisdiction, or in the event the Work is suspended or canceled due to the fact that a court, agency, department, entity or individual having jurisdiction has issued an order, the result of which is that the afore said obligations or bonds are no longer available for payment for the Work, Contractor expressly agrees that it shall be solely entitled to payment for Work accomplished until a notice of suspension or cancellation is served upon the Contractor. Contractor expressly waives any and all rights to institute an action, claim, cause of action or similar for any damages it may suffer as a result of the suspension or cancellation of the Work and/or its Contract pursuant to this section.

SECTION 01 1000
SUMMARY OF CONTRACTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 PROJECT

- A. Project Name: King Street Boilers Replacement
- B. Owner's Name: Port Chester - Rye UFSD.
- C. Architect's Name: Fuller and D'Angelo Architects and Planners.
- D. The work at the King Street Elementary School includes but is not limited to:
 - 1. Select Removals.
 - 2. Replacement of Boilers and Related Work.

1.3 DEFINITIONS

- A. Refer to General Conditions and Section 01 4216 for Definitions.

1.4 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5200 - Form of Agreement.
- B. The work of the Contractor is identified in this Project Manual and on the Drawings.
- C. Local custom and trade-union jurisdictional settlements do not control the scope of Work included in contract. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, the affected contractor(s) shall promptly negotiate a reasonable settlement to avoid or minimize the pending interruption and delays.
- D. Summary by References: Work of the contract can be summarized by reference to the Bidding Requirements, Specification sections, Drawings, Addenda, or Modifications to Contract Documents issued subsequent to the initial printing of this Project Manual, and including but not necessarily limited to printed material referenced by any of these. It is recognized that the work of the Contract is unavoidably affected or influenced by governing regulations, natural phenomenon, including weather conditions, and other forces outside the contract documents.

1.5 RELATED REQUIREMENTS

- A. Section 00 0115 - List of Drawing Sheets.
- B. Section 00 2113 - Bidding Requirements.
- C. Section 00 2115 - RFI Form.
- D. Section 00 4101 - Bid Form Contract #1 - MC (MECHANICAL CONTRACTOR).
- E. Section 00 4401 - Qualification of Bidders.
- F. Section 00 4402 - Hold Harmless Agreement.
- G. Section 00 4460 - Certification of Compliance With the Iran Disinvestment Act.
- H. Section 00 4470 - Declaration of Bidder's Inability to Provide Certification of Compliance with the Iran Divestment Act.
- I. Section 00 4476 - Insurance Certification.
- J. Section 00 5200 - Agreement Form: Contract Sum, retainages, payment period.
- K. Section 00 6000 - Bonds and Certificates.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUMMARY OF CONTRACTS

- L. Section 00 7200 - General Conditions : Additional requirements for progress payments and Changes in the Work.
- M. Section 01 2000 - Price and Payment Procedures
- N. Section 01 2100 - Allowances.
- O. Section 01 2300 - Alternates: Payment procedures relating to alternates.
- P. Section 01 5000 - Temporary Facilities and Controls.

1.6 JURISDICTIONAL DISPUTES

- A. The Contractor shall only employ 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 capital improvement 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 its portion of the 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 a contractor involved in a labor dispute, all costs associated with creating that entrance shall be borne by the contractor involved in the dispute. Such costs shall include, but not be limited to, signage, fencing, temporary roads and security personnel as deemed necessary by the Owner for the safety of the occupants of the site.
- B. If the 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 Architect or the Owner, any conflict between its agreement 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.
- C. The Contractor shall ensure that its work continues uninterrupted during the labor dispute and will be liable to the Owner for all damages suffered by the Owner occurring as a result of work stoppages, slowdowns, disputes or strikes.

1.7 SUBCONTRACTORS/SUPPLIERS

- A. Refer to Section 00 4336 - Proposed Subcontractors Form for subcontractors required to be submitted with the Bid Proposal.
- B. Mechanical Contractor:
 - 1. Equipment/Suppliers.
 - 2. Piping.
 - 3. Insulation
- C. Plumbing Sub-contractor:
 - 1. Plumbing equipment/Suppliers.
 - 2. Piping.
 - 3. Insulation
- D. Electrical Sub-contractor:
 - 1. Fire Alarm Sub Contractor
 - 2. Switchboard/Panelboards.
 - 3. Lighting Fixture Supplier.

1.8 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of removal work is shown on drawings.
- B. Scope of alterations work is indicated on drawings.
- C. Replace existing system with new construction, keeping existing in operation until ready for changeover.

1.9 OWNER OCCUPANCY

- A. Port Chester - Rye UFSD intends to continue to occupy adjacent portions of the existing building during the entire construction period.
- B. Cooperate with Port Chester - Rye UFSD to minimize conflict and to facilitate Port Chester - Rye UFSD's operations.
- C. Schedule the Work to accommodate Owner's occupancy.

1.10 CONTRACTORS USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas of work as directed by Owner and/or Architect..
- B. Arrange use of site and premises to allow:
 - 1. Port Chester - Rye UFSD occupancy.
 - 2. Work by Others.
 - 3. Work by Port Chester - Rye UFSD.
 - 4. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Port Chester - Rye UFSD:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code or directed by the Owner, open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Existing building spaces may not be used for storage unless approved by the Owner..
- E. Time Restrictions:
- F. Construction deliveries shall not occur during the hours of 7:30 AM and 9:00 AM and 2:00 PM and 3:00 PM, when school buses are arriving or leaving the school grounds.
- G. During the entire construction period the prime contractors shall have limited use of the premises for construction operations, including use of the site as indicated in phasing and schedule of work time table included in this section.
 - 1. The Contractors shall limit their use of the premises to the work indicated, so as to allow for Owner occupancy and use by the public during the period when the Owner occupies the building.
 - 2. Contractors are to maintain clear and unobstructed paths of exit discharge from all existing exits.
 - 3. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all time. Do not use these areas for parking or storage of materials.
 - 4. Lock automotive type vehicles such as passenger cars and trucks and other types of mechanized and motorized construction equipment, when parked and unattended, to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
- H. 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 shall 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 Contractors.
- I. Site work shall be scheduled and coordinated with Owner and Construction Manager. The Owners decisions shall be final and binding on all contractors
 - 1. Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUMMARY OF CONTRACTS

- J. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated or directed by . If additional storage is necessary obtain and pay for such storage off-site.
- K. The Contractor(s) and any entity for which the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner, which may be withheld in the sole discretion of the Owner.
- L. Contractor shall ensure that the work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the work and all adjacent areas. The work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the work shall be free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Contract Documents, each contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of:
 - 1. Any areas and buildings adjacent to the site of the work or;
 - 2. The Building in the event of partial occupancy as more..
- M. Without prior approval of the Owner, Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitations, lavatories, toilets, entrances and parking areas other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, The Contractor shall use its best efforts to comply with the rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project Site, and the Building, as amended Owner from time to time. Each Contractor shall immediately notify the Owner in writing if during the performance of the Work, the Contractor finds compliance with any portion of such 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. 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, applicable to use, and occupancy of the Project Site and the Building.
- N. Maintain the existing building in a safe and weathertight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period. When work is scheduled after hours clean and remove all temporary barriers and protection so that the building can be occupied the following day when normal building occupancy will occur.
- O. Keep public areas such as hallways, stairs, elevator lobbies, and toilet rooms free from accumulation of waste material, rubbish or construction debris.
- P. Smoking, drinking of alcoholic beverages or open fires will not be permitted on the project site.
- Q. Utility Outages and Shutdown:
 - 1. Limit disruptions, shut downs, switch overs, etc. of utility services to hours the building is unoccupied, Saturdays, Sunday and/or holidays. Arrange at least 72 hours in advance with Port Chester - Rye UFSD.
 - 2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers, fire alarm system, electrical, data, and heating system, without 7 days notice to Port Chester - Rye UFSD and authorities having jurisdiction.
 - 3. Prevent accidental disruption of utility services to other facilities.

1.11 AVAILABILITY OF EXISTING BUILDING

- A. The existing building work areas will be available to the Contractor(s) as follows:
 - 1. Notice of Award to Start of Construction
 - a. 7:00 AM to 6:00 PM Monday thru Friday only when programs and school occupancy are not disrupted and with the approval of the Owner.
 - b. Dawn thru dusk Monday through Saturday if access is not required into the building.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUMMARY OF CONTRACTS

2. Start of Construction to Completion date
 - a. June 24, 2023 thru September 15, 2023:
 - a) 7:00 AM thru 4:30 PM Monday thru Friday if access into the facility is required.
 - b) Dawn thru dusk Monday through Saturday if access is not required into the building.
 - b. Site Work: Dawn to Dusk Monday thru Saturday. **No access into the facility will be permitted without authorization by the owner's Representative.**
 - c. Construction operations which create dust, noise or fumes, particularly welding operations shall be scheduled after school hours, when approved by the Owner's Representative.
 3. After Completion Date
 - a. 4:30 PM thru 10:30- PM Monday thru Saturday only when programs and school occupancy are not disrupted and with the approval of the Owner.
 4. Construction operations which create dust, noise or fumes, particularly welding operations shall be schedule after school hours, when directed by the Owner's representative .
- B. Upon request by the Contractor, the building may be made available, at the discretion of the Owner, and at the Cost to the Contractor, during such times as are allowed by local noise ordinance, in addition to the above listed hours. A request for use during these off-regular hours must be made at least two (2) days before the use. Such off-hours may include Sundays and Holidays.
- C. If the Contractor requests the use of the facility for off-hours to maintain the scheduled completion date, the Contractor shall pay all additional costs in connection with opening, providing security and project management expenses incurred with no costs to the Owner. All expenses shall be deducted from the Contractors contract price. Comply with other portions of this Section.
1. Weekend, Holiday and Night Work:
 - a. The contractor shall make no claim for delay for the inability of the Owner to make the site available for off-hours work. Should the Owner make the site available during these hours at the contractor's request, the cost will be borne by the Contractor.
- D. THE CONTRACTOR SHALL BE REQUIRED TO PERFORM SCHEDULED WORK WITHIN THE EXISTING BUILDING ONLY DURING THE TIME PERIODS INDICATED AND SHALL INCLUDE IN THE BID ALL COSTS FOR LABOR, MATERIAL, ETC. INCLUDING PREMIUM TIME AND WEEKEND TIME TO PERFORM THE SCOPE OF THE WORK, PER PHASE PER TIME PERIOD.

1.12 COMPLETION OF WORK AFTER SCHEDULED COMPLETION DATE

- A. Contractor(s) shall perform work only within these limitations and all manpower, equipment, etc., shall be provided as required to complete the work as per schedule. In the event the contractor does not complete the work as scheduled all work to be performed shall be performed after 4:30 PM when the building is unoccupied and approved by the Owner. All costs shall be borne by the Contractor.
- B. The Contractor shall prepare a progress schedule in detail listing items of work, sections of building and the time required for each.
- C. The Contractor shall provide necessary manpower, equipment, etc., as required to maintain schedule developed within the time limitations as described above.
- D. School Calender is available on the Owner's web site. Calendar is subject to modifications for civil service holidays, changes in education programs, snow days, etc.

1.13 WORK SEQUENCE

- A. Refer to Section 01 1010 - Milestone Schedule.
- B. Start Date: Letter of Award of Contract:
- C. Coordinate construction schedule with Fuller and D'Angelo Architects and Planners, coordinate daily work and management of construction schedule with Owner representative.
- D. For work outside the building, Contractor shall commence operations promptly on award of Contract, and shall be responsible for same being kept clear of materials and debris in connection with their own work

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUMMARY OF CONTRACTS

and that of other Contractors. If a Contractor for outside work allows other contractors to deposit material and debris over its lines, the Contractor shall be responsible for all delay and extra cost occasioned thereby

E. COVID-19

1. Due to the ongoing COVID-19 pandemic and the resulting uncertainty with regard to (a) when the Owner's schools will be in session during 2020, (b) what restrictions, if any, will be applicable to construction activities on the Owner's property due to State, Federal or Local orders, laws, regulations or rules related to the COVID-19 pandemic (including but not limited to social distancing, cleaning and disinfection requirements) and (c) the duration of any restrictions imposed on construction activities, the Owner may modify the construction schedule set forth in the Contract Documents and the Contractor acknowledges and agrees that there shall be no additional compensation paid by the Owner for schedule modifications caused directly or indirectly by the COVID-19 pandemic. The Contractor further acknowledges and agrees that the sole remedy for any schedule modifications caused directly or indirectly by the COVID-19 pandemic shall be an extension of time, if warranted.
2. In the event that due to the ongoing COVID-19 and school continuing to be **not** in session, the facilities will be made available to the Contractor earlier than the proposed schedule; subject to any restrictions imposed by Federal, State or Local laws, regulations and rules. The completion dates will remain unchanged.

END OF SECTION

**SECTION 01 1010
MILESTONE SCHEDULE**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Milestone Construction schedule for project duration.
- B. Related Sections include the following:
 - 1. Section 01 1000 - Summary of Contracts for work related to each Prime Contract.
 - 2. Section 01 3000 - Administrative Requirements for administrative requirements governing preparation and submittal of Prime Contractors' Construction Schedule.
 - 3. Section 01 7800 - Closeout Submittals.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
- B. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
- C. Predecessor activity is an activity that must be completed before a given activity can be started.
- D. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration.
- E. Event: The starting or ending point of an activity.
- F. Major Area: A story of construction, a separate building, or a similar significant construction element.
- G. Milestone: A key or critical point in time for reference or measurement.

1.4 REGULATORY REQUIREMENTS

- A. Comply with Section 01 4100 - Regulatory Requirements including ID badge, safety vest, hard hat, etc. and all other required personal protective equipment as required by OSHA.
 - 1. Failure to abide by the aforementioned rules in paragraph (B) not limited to the Owner's requirements, and OSHA's safety rules and regulations, and without prior notice shall result in the removal of said individual from the site

1.5 MILESTONE SCHEDULE PREPARATION

- A. A Master Schedule will be developed at a general meeting of all successful prime contractors within 10 days of Letter of Intent or Award of the Contracts. Each prime contractor will coordinate activities, forward submittals, deliver materials and provide necessary manpower to meet the milestones listed below.

1.6 REQUIREMENTS

- A. By submitting his/her bid the contractor acknowledges and certify that the project will be completed by the Substantial Completion date and that his/her total base bid has been submitted in accordance with paragraph (A) in Section 5, below.
- B. All contractors and their subcontractor's project superintendent, employees, directly or indirectly employed by the contractor to work on the project must at all times, whenever on the school property, wear an ID badge, safety vest, hard hat, etc. and all other required personal protective equipment as required by OSHA

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

3.1 MILESTONE SCHEDULE

- A. Construction Schedule
 - 1. Contract #1 MECHANICAL
 - 2. Board of Education project approval: March 16, 2023
 - 3. Phase 1
 - a. Start Date: March 17, 2023 (Letter of Award)
 - b. Tasks: Schedule of Values, Progress Schedule, Contracts, Bonds and Insurance, Field verification of existing conditions, and Submittals.
 - c. Completion date: April 16, 2023
 - 4. Phase 2: Construction
 - a. Start Date: June 26, 2023
 - b. Completion Date: September 6, 2023
 - 5. Phase 3: Punchlist
 - a. Start Date: September 8, 2023
 - b. Substantial Completion Date: September 15, 2023
 - 6. Phase4 : Close out
 - a. Start Date: September 18, 2023
 - b. Completion Date: October 30, 2023
 - 7. All work required by any of the Owner's representatives and consultants, including the Architect, Architect's consultants, and Owner's Attorneys, etc to execute final close-out of contract after October 30, 2023 if determined to be caused by contractor, shall result in payment(s) to the Owner's representatives and consultants, including the Architect, Architect's consultants, and Owner's Attorneys, etc in the form of a change order deduct to the base contract.

END OF SECTION

SECTION 01 2000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Provisions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Change procedures.
- C. Procedures for preparation and submittal of application for final payment.

1.3 RELATED REQUIREMENTS

- A. Section 00 5200 - Form of Agreement: Contract Sum, retainages, payment period, monetary values of unit prices.
- B. Section 00 6000 - Bonds and Certificates.
- C. Section 00 7200 - General Conditions: Additional requirements for progress payments, final payment, changes in the Work.
- D. Section 01 2100 - Allowances: Payment procedures relating to allowances.
- E. Section 01 2300 - Alternatives: Payment procedures relating to alternates.
- F. Section 01 7800 - Closeout Submittals: Project record documents.

1.4 SCHEDULE OF VALUES

- A. Form to be used: AIA G702/703.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample, in PDF format to Fuller and D'Angelo Architects and Planners for approval.
- C. Forms filled out by hand will not be accepted.
- D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify bonds and sub-contractor.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.
- G. Sub-schedules: Where the Work is separated into floor levels provide separate payment provide sub-schedules showing values correlated with each floor levels.
 - 1. For public school projects identify each application with the SED Project number for building and Fuller and D'Angelo's project number.
- H. Provide a separate line item for the following: (where applicable)
 - 1. Bonds. (Bond premium may be paid when invoice of premium is provided).
 - 2. OCP. (Policy premium may be paid when invoice of premium is provided).
 - 3. Labor and materials, when payment is anticipated for material not installed
 - 4. Submittals. (1% Minimum of contract amount)
 - 5. Each allowance.
 - 6. Each alternate.
 - 7. Meeting attendance. (1% Minimum of contract amount)
 - 8. As-built Drawings. (1% Minimum of contract amount)
 - 9. Testing, HVAC balance reports (1% Minimum of contract amount)
 - 10. Punch List (1% Minimum of contract amount).

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PRICE AND PAYMENT PROCEDURES

11. Final Cleaning
12. Closeout Documents (2% Minimum of contract amount)
13. Identify line items being performed by subcontractors.
14. Authorized change orders.

1.5 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Form to be used: AIA G702,703.
- C. Forms filled out by hand will not be accepted.
- D. For each item, provide a column for listing each of the following:
 1. Item Number.
 2. Description of work.
 3. Scheduled Value.
 4. Previous Applications.
 5. Work in Place and Stored Materials under this Application.
 6. Authorized Change Orders.
 7. Total Completed and Stored to Date of Application.
 8. Percentage of Completion.
 9. Balance to Finish.
 10. Retainage.
- E. Execute certification by signature of authorized officer.
- F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- H. Submit one (1) electronic "pencil copy", in PDF format, of each Application for Payment to Fuller and D'Angelo, P.C. for approval.
- I. After Architect's approval of the "pencil copy" submit three hard copies Fuller and D'Angelo, P.C.
- J. Include the following with the application:
 1. Transmittal letter as specified for submittals in Section 01 3000.
 2. Construction progress schedule, revised and current as specified in Section 01 3216.
 3. Partial Waivers of Mechanic's Lien: With each Application for Payment, submit partial waivers of mechanic's liens from contractor, subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - a. Waiver Forms: Submit waivers of lien on forms, provided by the Architect 01 2005.
 4. When an application shows completion of an item, submit final or full waivers.
 5. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 6. Submit Final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 7. Certified Payrolls; All Applications for Payment must be accompanied with certified payrolls for all Contract Work performed. **In addition each contractor and sub-contractor shall submit to the Owner within thirty days after issuance of its first payroll, and every thirty days thereafter,** a transcript of the original payroll record subscribed and affirmed as true under penalties of perjury. The Owners shall be required to receive and maintain such payroll records. The original payrolls or transcripts shall be preserved for three years from the completion of the work on the awarded project.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PRICE AND PAYMENT PROCEDURES

- a. Submit certification that all personnel listed on certified payrolls have successfully completed an OSHA construction safety and health course of at least 10 hours prior to performing any work on the project.
- K. Liens: No Payment will be made when a lien is filed against Owner by contractor or any subcontractor, or supplier or other entities until such lien is removed, bonded or similar action acceptable to the Owner
- L. Project record documents as specified in Section 01 7800, shall be available for review by Port Chester - Rye UFSD as a prerequisite for approval of payment.
- M. Affidavits attesting to off-site stored products and insurance certificates covering all site material and equipment.
- N. Payments for stored materials (whether on-site but not installed, or stored in secured warehouse) will require a Bill of Lading showing the exact value. In no case will more than 90% be approved if the item is not installed. Insurance certificates will be provided specific to materials stored (for on or off site items)
- O. When Owner's Representative and Fuller and D'Angelo Architects and Planners requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.
- P. The Owner shall retain Five (5) percent of the amount of each payment.

1.6 INITIAL APPLICATION FOR PAYMENT:

- A. Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. Executed contract.
 - 2. Approved bonds.
 - 3. Approved insurance certificates.
 - 4. Names of full time project manager, on site superintendent, and foreman. Refer to Article 11 of the General Provisions.
 - 5. List of suppliers and fabricators: Refer to Section 01 1000 Summary of Contract(s) .
 - 6. List of subcontractors: .
 - 7. Approved Schedule of Values.
 - 8. Contractor's Construction Schedule (preliminary if not final).
 - 9. Contractor's Submittal Schedule.
 - 10. Products list.

1.7 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION

- A. Comply with Requirements of Section 01 7800

1.8 MODIFICATION PROCEDURES

- A. Refer to the General Provisions for additional information.
- B. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to Contract Documents.
- C. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Fuller and D'Angelo Architects and Planners will issue instructions directly to the contractor.
- D. The Contractor shall be responsible for informing other in it's employ, subcontractor's whose work is affected by any modifications.
- E. For other required changes, Fuller and D'Angelo Architects and Planners will issue a document signed by Port Chester - Rye UFSD instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
 - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 - 2. Promptly execute the change.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PRICE AND PAYMENT PROCEDURES

3. Refer to the General Provisions for additional information.
 - F. Owner's Representative and Fuller and D'Angelo, P.C. may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change shall prepare and submit a fixed price quotation within ten (10) days.
 - G. Contractor may propose a change by submitting a request for change to Owner's Representative and Fuller and D'Angelo Architects and Planners, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.
 - H. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 1. Refer to AIA 201 Article 7.
 2. For change requested by the contractor, the amount will be based on the Contractor's request for a Change Order as approved by Fuller and D'Angelo Architects and Planners.
 3. For pre-determined unit prices, unit costs, allowance and quantities, the amount will be based on the fixed unit prices, unit costs, allowance.
 4. For change ordered by Fuller and D'Angelo Architects and Planners without a quotation from, the amount will be determined by Fuller and D'Angelo Architects and Planners based on the Contractor's substantiation of costs as specified for Time and Material work.
 - I. Substantiation of Costs: Provide full information required for evaluation.
 1. On request, provide the following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.
 - e. Credit for deletions from Contract, similarly documented.
 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
 - a. For Time and Material work Owner's representative shall verify time and material provided.
 - J. Execution of Change Orders: Fuller and D'Angelo Architects and Planners will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
 - K. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
 - L. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 - M. Promptly enter changes in Project Record Documents.
- 1.9 APPLICATIONS FOR PAYMENT WHEN BEHIND SCHEDULE**
- A. When the project falls behind schedule the contractor shall demonstrate the actions to be taken to put the project back on schedule.
 1. Payments will not be approved until satisfactory evidence is presented to put the project on schedule.

1.10 APPLICATION FOR PAYMENT AFTER SCHEDULED COMPLETION DATE

- A. In the event the work is not completed by the schedule date, listed in Section 01 1000 Summary of Work, and in addition to the other remedies described, the Architect will not review progress payment requisitions submitted after the construction completion date, and the District will not issue any progress payments after that date, until all work is completed.
 - 1. Only one requisition for work performed, after the construction completion date, may be submitted, and it may be submitted only when all work is complete and a Punch List inspection is conducted; said requisition may be submitted when the work at 100% complete, less 5% retainage.

1.11 APPLICATION FOR FINAL PAYMENT

- A. Comply with Section 01 7800
- B. It is understood by the Contractor that the maximum payment due the contractor prior to final payment shall be Ninety (95%) of the Contract amount and the final Five (5%) will be due only after the completion and submittal of all requirements of Section 01780 Closeout Submittals are met, including completion of all "punch list" items..
- C. Application for Final Payment will not be considered until the following have been accomplished:
 - 1. All closeout procedures specified in Section 01780 are submitted and approved.
 - 2. All "punch list" items have been completed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PRICE AND PAYMENT PROCEDURES

**SECTION 01 2005
PARTIAL RELEASE OF LIEN**

CONTRACTOR/SUBCONTRACTOR/VENDOR'S LETTERHEAD

Name of Facility: King Street Elementary School

Address: 697 King St, Port Chester, NY 10573

Name of Owner: Port Chester-Rye Union Free School District

Name of the Contractor/Subcontractor/Vendor: _____

Address: _____

Trade/Vendor: _____

Application # _____ Dated _____.

We certify that we have completed _____ % of our Contract.

Prior to this requisition we have received payment equal to _____ % of our contract amount.

The undersigned, upon receipt of the above requisition payment hereby releases and discharges the Owner of and from any liability or obligation in any way related to or arising out of this project up to and including the date of this document.

The undersigned further covenants and agrees that it shall not in any way claim or file a mechanic's or other lien against the premises of the above designated project, or any part thereof, or against any fund applicable thereto for any of the work, labor, materials heretofore furnished by it in connection with the improvement of said premises.

The undersigned further warrants that, in order to induce the Owner to release this partial payment, they have paid all claims for labor, material, insurance, taxes, equipment, etc., employed in the prosecution of the work above, to date of this requisition.

The undersigned hereby releases and agrees to hold the Owner harmless from any and all claims in connection with the furnishing of such labor and materials, etc., for the construction of the aforementioned project.

The undersigned further guarantees that all portions of the work furnished and/or provided by them are in accordance with the contract and that the terms of the contract with respect to these guarantees will hold for the period specified in said contract.

IN WITNESS WHEREOF, we have executed under seal this release on the above date and to be legally bound hereby:

WITNESS: _____ FIRM: _____

BY: _____

State of New York, County of _____ subscribed and sworn to before me this ____ day of _____ 202__

Notary public

My commission expires _____

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PARTIAL RELEASE OF LIEN

**SECTION 01 2100
ALLOWANCES**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
- C. Cash allowances.

1.3 RELATED REQUIREMENTS

- A. Section 01 2000 - Price and Payment Procedures: Additional payment and modification procedures.

1.4 CASH ALLOWANCES

- A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Cash Allowance.
- B. Fuller and D'Angelo Architects and Planners and Construction Manager Responsibilities:
 - 1. Consult with, for consideration and selection of products, suppliers, and installers.
 - 2. Select products in consultation with Port Chester - Rye UFSD and transmit decision to Contractor.
 - 3. Prepare Change Order.
- C. Contractor Responsibilities:
 - 1. Assist Fuller and D'Angelo Architects and Planners in selection of products, suppliers, and installers.
 - 2. Obtain proposals from suppliers and installers and offer recommendations.
 - 3. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
 - 4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
 - 5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- D. Differences in costs will be adjusted by Change Order.
- E. Funds will be drawn from the Cash Allowance only by Change Order.
- F. At closeout of Contract, funds remaining in Cash Allowance will be credited to Owner by Change Order.

1.5 SCHEDULE OF ALLOWANCES

- A. CONTRACT 1 - MECHANICAL (MC) CASH ALLOWANCE
 - 1. CASH ALLOWANCE
 - a. Cash Allowance MC-1: Shall include a cash allowance of for use according to the Owner's instructions.
 - b. Fifteen Thousand _____ (\$15,000.00) DOLLARS

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ALLOWANCES

1.6 TOTAL ALL ALLOWANCES (Specific to Contract being bid, to be inserted on the Bid Form)

Fifteen thousand _____ (\$ 15,000)

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 2300
ALTERNATES**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Description of alternates for selection by the Owner, not included in the Base Bid.

1.3 RELATED REQUIREMENTS

- A. Document 00 2113 - Bidding Requirements: Instructions for preparation of pricing for Alternates.
- B. Section 00 4101 Bid Form for listing amount of each alternate.
- C. Document 00 5200 - Form of Agreement: Incorporating monetary value of accepted Alternates.

1.4 ACCEPTANCE OF Alternates

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Port Chester - Rye UFSD's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.5 SCHEDULE OF ALTERNATES

- A. **Contract #1 Mechanical Contractor**
 - 1. Alternate No. ALT- MC-1
 - a. The Contractor for Contract #1 Mechanical Construction shall state the amount to be ADDED TO the Base Bid to provide, furnish and install all labor, equipment and material required for remove and replace existing pumps. Refer to drawings and schedules in accordance with the Specifications and as shown on the contract drawings.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ALTERNATES

SECTION 01 2500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.3 RELATED REQUIREMENTS

- A. Section 00 2113 - Bidding Requirements: Restrictions on timing of substitution requests.
- B. Section 01 3000 - Administrative Requirements: Submittal procedures, coordination.
- C. Section 01 6000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling and restrictions on timing of substitution requests.

1.4 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. A Substitution Request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
 - 4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Port Chester - Rye UFSD.
 - 5. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 6. Agrees to reimburse Architect for review or redesign services associated with re-approval by authorities.
 - 7. Statement indicating why specified material or product cannot be provided.
 - 8. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 9. Samples, where applicable or requested.
 - 10. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - 11. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - 12. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - 13. 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 lack of availability or delays in delivery.
 - 14. Cost information, including a proposal of change, if any, in the Contract Sum.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUBSTITUTION PROCEDURES

15. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 16. 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.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
1. Note explicitly any non-compliant characteristics.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
1. Contractor's Substitution Request documentation must include the following:
 - a. Project Information:
 - a) Official project name and number, and any additional required identifiers established in Contract Documents.
 - b. Substitution Request Information:
 - a) Discrete and consecutive Substitution Request number, and descriptive subject/title.
 - b) Indication of whether the substitution is for cause or convenience.
 - c) Issue date.
 - d) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
 - e) Description of Substitution.
 - f) Reason why the specified item cannot be provided.
 - g) Differences between proposed substitution and specified item.
 - h) Description of how proposed substitution affects other parts of work.
 - c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
 - a) Physical characteristics.
 - b) In-service performance.
 - c) Expected durability.
 - d) Visual effect.
 - e) Sustainable design features.
 - f) Warranties.
 - g) Other salient features and requirements.
 - h) Include, as appropriate or requested, the following types of documentation:
 - (a) Product Data:
 - (b) Samples: Provide full size actual sample of item proposed for substitution. Sample shall be provided, without exception, even if the originally specified item did not require a sample.
 - (c) Certificates, test, reports or similar qualification data.
 - (d) Drawings, when required to show impact on adjacent construction elements.
 - d. Impact of Substitution:
 - a) Savings to Port Chester - Rye UFSD for accepting substitution.
 - b) Change to Contract Time due to accepting substitution.
- D. Limit each request to a single proposed substitution item.
1. Submit an electronic document, combining the request form with supporting data into single document.
 2. Deliver sample to Architect.

3.2 SUBSTITUTION PROCEDURES AFTER AWARD OF CONTRACT

- A. Submittal Form:
 - 1. Submit substitution requests by completing the form attached to this section. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.
- B. Architect will consider requests for substitutions only within 10 days after date of Agreement.
- C. Substitutions will not be considered under one or more of the following circumstances:
 - 1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
 - 2. Without a separate written request.
 - 3. When acceptance will require revisions to Contract Documents.

3.3 RESOLUTION

- A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- B. Architect will notify Contractor in writing of decision to accept or reject request.

3.4 ACCEPTANCE

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.5 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.
- B. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

3.6 ATTACHMENTS

- A. A facsimile of the Substitution Request Form (During Construction) required to be used on the Project is included after this section.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUBSTITUTION PROCEDURES

SUBSTITUTION REQUEST FORM

Provide form typewritten Hand written forms will not be accepted.

SUBSTITUTION REQUEST No. _____

(After the Bidding Phase)

Project: King Street Boilers Replacement

Substitution Request Number: _____

From: _____

Date: _____

A/E Project Number: 22468.00

Contract For: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution:

Manufacturer: _____ Address: _____ Phone: _____

_____ model no.: _____

Installer: _____ Address: _____ Phone: _____

History: _____ New product _____ 2-5 years old _____ 5-10 yrs old _____ More than 10
years old

Differences between proposed substitution and specified product:

Point-by-point comparative data attached - REQUIRED

Reason for not providing specified item: _____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

Date Installed: _____

Proposed substitution affects other parts of Work: ____ No ____ Yes; explain

Savings to Owner for accepting substitution: _____ (\$ _____)

Proposed substitution changes Contract Time: ____ 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.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUBSTITUTION PROCEDURES

Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

Attachments:

A/E's REVIEW AND ACTION

Refer to Specification Section 01 3000 - Administrative Requirements.

: _____ Date: _____

Additional Comments: __ Contractor __ Subcontractor __ Supplier __ Manufacturer __ A/E

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUBSTITUTION PROCEDURES

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. General administrative requirements.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Construction progress schedule.
- E. Contractor's daily reports.
- F. Submittals for review and information.
- G. Number of copies of submittals.
- H. Requests for Interpretation (RFI) procedures.
- I. Submittal procedures.

1.3 RELATED REQUIREMENTS

- A. Section 01 1010 - Milestone Schedule.
- B. Section 01 3216 - Construction Progress Schedule: Form, content, and administration of schedules.
- C. Section 01 6000 - Product Requirements: General product requirements.
- D. Section 01 5000 - Temporary Facilities and Controls.
- E. Section 01 7000 - Execution: Additional coordination requirements.
- F. Section 01 7800 - Closeout Submittals.

1.4 REFERENCE STANDARDS

- A. Submittal Cover Sheet: Attached at the end of this section.

1.5 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 7000 - Execution for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

1.6 PROJECT COORDINATION

- A. Owner's Representative: Owner's Representative: Ray Renda - Director of Facilities.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

1. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings. Prepare similar memoranda for the Architect and separate contractors where coordination of their work is required.
- B. The Contractor shall:
1. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - a. Preparation of schedules.
 - b. Installation and removal of temporary facilities.
 - c. Processing of submittals and photocopying/delivery to affected contractors.
 - d. Progress meetings.
 - e. Project closeout activities.
 2. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.
 3. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
 4. Coordination: The 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. The contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - a. Coordinate installation of different components with other contractors and/or subcontractors to ensure maximum accessibility for required maintenance, service, and repair
 5. The shall cooperate with the Owner's Representative in allocation of mobilization areas of site, access, traffic, parking facilities, and sheds.
 6. During construction, coordinate use of site and facilities through the Project Coordinator.
 7. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
 8. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 1000 - Summary of Contracts.
 9. Coordinate field engineering and layout work under instructions of the Owner's Representative.
- C. Make the following types of submittals to Architect and Construction Manager
1. Requests for Interpretation.
 2. Requests for substitution.
 3. Shop drawings, product data, and samples.
 4. Test and inspection reports.
 5. Design data.
 6. Manufacturer's instructions and field reports.
 7. Applications for payment and change order requests.
 8. Progress schedules.
 9. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING

- A. Owner's Representative and Architect will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Port Chester - Rye UFSD.
 - 2. Fuller and D'Angelo Architects and Planners
 - 3. Consultants.
 - 4. All contractors.
 - 5. Contractor's Field Superintendent.
- C. Agenda:
 - 1. Execution of Port Chester - Rye UFSD-Contractor Agreement.
 - 2. Submission of executed Bonds and Insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of schedule of values, progress schedule, list of products,, and list of subcontractors,
 - 5. Designation of personnel representing the parties to Contract.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Review construction scheduling.
 - 8. Use of premises by Owner and Prime Contractor and Contractor.
 - 9. Port Chester - Rye UFSD's requirements and occupancy prior to completion.
 - 10. Construction facilities and controls provided by Port Chester - Rye UFSD.
 - 11. Temporary utilities provided by Port Chester - Rye UFSD.
 - 12. Survey existing facilities prior to starting construction.
 - 13. Security and housekeeping procedures.
 - 14. Requirements for start-up of equipment.
- D. Architect will record minutes and distribute copies within five days after meeting to all participants. Contactor shall distribute to all entities of the Contractor affected by decisions made.

3.2 SITE MOBILIZATION MEETING

- A. Owner's Representative will schedule meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required:
 - 1. Contractor.
 - 2. Port Chester - Rye UFSD.
 - 3. Contractor's Superintendent.
- C. Agenda:
 - 1. Use of premises by Port Chester - Rye UFSD and Contractor.
 - 2. Port Chester - Rye UFSD's requirements.
 - 3. Construction facilities and controls provided by Port Chester - Rye UFSD.
 - 4. Temporary utilities provided by Port Chester - Rye UFSD.
 - 5. Survey and building layout.
 - 6. Security and housekeeping procedures.
 - 7. Procedures for maintaining record documents.
 - 8. Requirements for start-up of equipment.
 - 9. Inspection and acceptance of equipment put into service during construction period.

3.3 PROGRESS MEETINGS

- A. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- B. Meetings will be scheduled throughout progress of the Work at minimum of two week intervals.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Port Chester - Rye UFSD.
 - 3. Fuller and D'Angelo Architects and Planners
 - 4. MEP consultant
 - 5. Contractor's superintendent.
 - 6. Major Subcontractors.
 - 7. Suppliers as appropriate to agenda topics for each meeting.
- D. Attendees: In addition to representatives of the Owner and Architect/Engineer, each Contractor shall be represented at these meetings.
 - 1. Attendance is mandatory at each meeting and a penalty sum of \$500.00 per missed meeting will be assessed to the Prime Contractor not attending without prior written authorization from the Owner's representative . Subcontractors, suppliers, or other entities will be invited at the discretion of the Owner, Construction Manager, and the Architect. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the work
 - 2. Subcontractors, suppliers, or other entities will be invited at the discretion of the Owner's representative .
 - 3. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work
- E. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of RFIs log and status of responses.
 - 7. Review of delivery schedules.
 - 8. Review of off-site fabrication and delivery schedules.
 - 9. Review construction safety programs.
 - 10. Review exiting and separation of construction
 - 11. Maintenance of progress schedule.
 - 12. Corrective measures to regain projected schedules.
 - 13. Planned progress during succeeding work period.
 - 14. Coordination of projected progress.
 - 15. Maintenance of quality and work standards.
 - 16. Effect of proposed changes on progress schedule and coordination.
 - 17. Other business relating to work.
- F. Architect will record minutes and distribute copies within five days after meeting to all participants. Contactor shall distribute to all entities of the Contractor affected by decisions made.

3.4 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 10 days after date of the Letter of Award, submit preliminary schedule.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

- B. Responsibility:
 - 1. The Mechanical Contractor shall be responsible for preparing and updating the contract progress schedule.
- C. If preliminary schedule requires revision after review, submit revised schedule within 5 days.
- D. Submit updated schedule with each Application for Payment.
- E. General Content
 - 1. Responsibility:
 - a. The Contractor shall prepare a schedule for their work to be incorporated into the master schedule.
 - 2. Milestones: Include milestones in schedule, including, but not limited to, Notice of Award, Submittals, Verification of existing conditions, Removals, Installation, Substantial Completion, Completion of Punch List, Final Completion, and Closeout .
 - 3. Show complete sequence of construction by activity, by room with dates for beginning and completion of each element of construction.
 - 4. Identify each item by specification section number.
 - 5. Provide sub-schedules for each stage of Work identified in Section 01 1000.
 - 6. Provide sub-schedules to define critical portions of the entire schedule.
 - 7. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
 - 8. Provide legend for symbols and abbreviations used.
- F. Bar Chart Schedule
 - 1. Include a separate bar for each major portion of Work or operation.
 - 2. Identify the first work day of each week.

3.5 DAILY CONSTRUCTION REPORTS

- A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.
- B. The Contractor shall prepare a daily construction report recording the following information concerning events at Project site and project progress:
 - 1. Date.
 - 2. High and low temperatures, and general weather conditions.
 - 3. List of subcontractors at Project site.
 - 4. List of separate contractors at Project site.
 - 5. Major equipment at Project site.
 - 6. Material deliveries.
 - 7. Safety, environmental, or industrial relations incidents.
 - 8. Meetings and significant decisions.
 - 9. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
 - 10. Testing and/or inspections performed.
 - 11. List of verbal instruction given by Port Chester - Rye UFSD and/or Fuller and D'Angelo Architects and Planners.
 - 12. Signature of Contractor's authorized representative.

3.6 PROOF OF ORDERS AND DELIVERY DATES

- A. Within two (2) weeks after the approval of shop drawings, samples, product data and the like, the Contractor(s) shall provide copies of purchase orders for all equipment and materials which are not readily available in local stock. The Contractor(s) shall submit written statements from suppliers confirming the orders and stating promised delivery dates. Dates shall be indicated and coordinated with the Construction Schedule.

3.7 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. **Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.**
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare using an electronic version of the form appended to this section.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 01 6000 - Product Requirements)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 2. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
 3. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
 - a. The Port Chester - Rye UFSD reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Fuller and D'Angelo Architects and Planners, and any of its consultants, due to processing of such RFIs.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

2. Note dates of when each request is made, and when a response is received.
 3. Highlight items requiring priority or expedited response.
 4. Highlight items for which a timely response has not been received to date.
- H. Review Time: Fuller and D'Angelo Architects and Planners will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Port Chester - Rye UFSD.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
 2. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
 3. Notify Fuller and D'Angelo Architects and Planners within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.8 SUBMITTAL SCHEDULE

- A. Submit to Owner's Representative and Architect for review a schedule for submittals in tabular format.
1. Shop Drawing a Submittal Log no later than ten (10) days after Letter of Award.
 2. Submit at the same time as the preliminary schedule.
 3. Format schedule to allow tracking of status of submittals throughout duration of construction.
 4. Arrange information to include scheduled date for initial submittal, specification number and title, description of item of work covered, and role and name of subcontractor.
 - a. Identify long lead and critical items critical to maintain the construction schedule.
 5. No payments will be processed when a submittal is not submitted as scheduled or the project fall behind schedule until the Contractor submits a revised schedule approved by the Owner's Representative or Architect.

3.9 SUBMITTALS FOR REVIEW

- A. Submittal Cover Sheet: Attached at the end of this section.
- B. All submittals are the product and the property of the Contractor. The Owner, Owner's Representative, Architect, or Consultants shall not be responsible for the contractor's construction means, methods or techniques: safety precautions or programs; Acts or admissions; or failure to carry out the work in accordance to the contract documents
- C. Shop Drawing Submittal Log no later than five (5) days after award of contract.
- D. All Shop Drawing Submittals shall be submitted no later than twenty (20) days after Letter of Award of Contract. No further payments will be made to the contractor after twenty (20) until all submittals are made.
- E. When the following are specified in individual sections, including but not limited to the following, submit them for review:
1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
 5. Templates.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

6. Standard wiring diagrams.
- F. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 1. Submittals for HVAC, electrical, or roofing submit directly to consultant with copy to Architect.
- G. Samples will be reviewed only for aesthetic, color, or finish selection and for record documents purposes described in Section 01 7800 - Closeout Submittals.
- H. After review, provide copies and distribute in accordance with Submittal Procedures article below .
- I. The Architect shall review and approve or take other appropriate action on the Contractor submittals, such as shop drawings, product data, samples and other data, which the Contractor is required to submit, but only for the limited purpose of checking for conformance with the design concept and the information shown in the Construction Documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. The Architect's review shall be conducted with reasonable promptness while allowing sufficient time in the Architect's judgment to permit adequate review. Review of a specific item shall not indicate that the Architect has reviewed the entire assembly of which the item is a component. **The Architect shall not be responsible for any deviations from the Construction Documents not brought to the attention of the Architect, in writing, by the Contractor.** The Architect shall not be required to review partial submissions or those for which submissions of correlated items have not been received.
- J. Marking or comments on shop drawings shall not be construed as relieving the Contractor from compliance with the contract project plans and specifications, nor departure therefrom. The contractor remains responsible for details and accuracy for conforming and correlating all quantities, verifying all dimensions, for selecting fabrication processes, for techniques of assembly and for performing their work satisfactorily and in a safe manner.
- K. **Architect will review the original submittal and one (1) re submittal. Additional reviews will be additional services provided to the Owner and charged accordingly. The Owner will back charge the contractor accordingly.**
- L. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- M. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

3.10 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.
 3. Inspection reports.
 4. Manufacturer's instructions.
 5. Manufacturer's field reports.
 6. Other types indicated.
- B. Submit for Owner's Representative and Architect's knowledge as contract administrator. No action will be taken.

3.11 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Refer to Section 01 7800 - Closeout Submittals..

3.12 NUMBER OF COPIES OF SUBMITTALS

- A. Documents: Submit one electronic copy **in PDF format**; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected. All submittals shall be in electronic format and conforming to the following:
1. Each item shall be in a separate file.
 2. Each file name shall start with the specification section number and contain an abbreviated explanation of what it contains; for example:
 - a. 03 3000 Concrete; 07 5323 EPDM.pdf; 07 5323 Bond Adh.pdf ; 07 7100 Drain.pdf; 07 7100 Hatch.pdf; 09900 Painting;
 3. Add Revision number (Rev2 Rev3, etc) to the file name when resubmitting items, for example:
 - a. 07 5323 EPDM Rev1.pdf 07 5323 Bond AdhRev1.pdf
 4. Provide a Cover Sheet with each item - in the same file as the technical submittal.
 5. Do not zip the files, and do not put the files in Folders.
 6. Make all technical submittals at one time per trade- refer to the specification for additional submittal requirements for example:
 - a. Concrete; Masonry; Miscellaneous Fabrications; Roofing; etc.
 7. Do not send MSDS with the technical submittals; collate all of the MSDS needed for the entire project in three ring binders, organized by specification section, and submit the binders to the Owner's Representative, with copy of Transmittal to the Architect, and maintain one copy at the project site.
- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Owner's Representative.
1. Approved sample will be retained at the project site.
 2. Retained samples will not be returned to Contractor unless specifically so stated.
 3. Submit with each sample, in electronic PDF format, data, cuts, photos, color, charts, etc.

3.13 SUBMITTAL PROCEDURES

- A. General Requirements:
1. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
 2. Transmit using approved form attached to this section.
 3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
 4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
 5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
 - b. All submitted shop drawings shall be stamped and signed by the Contractor with the following note:
 - a) **"We the undersigned certify that we have reviewed and coordinated this shop drawing and they are in conformance to the plans, specifications, applicable codes and other provisions of the Contract Documents."**
 6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
 - a. Send submittals in electronic format via email to Architect and Construction Manager.
 7. Schedule submittals to expedite the Project, and coordinate submission of related items.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

- a. For each submittal for review, allow 10 working days excluding delivery time to and from the Contractor.
 - b. For sequential reviews involving Architect or another affected party, allow an additional 7 days.
 8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 9. Provide space for Contractor and Architect and Construction Manager review stamps.
 10. When revised for resubmission, identify all changes made since previous submission.
 11. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
 12. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
 13. Submittals not requested will be recognized, and will be returned "Not Reviewed",
- B. Product Data Procedures:
1. Submit only information required by individual specification sections.
 2. Collect required information into a single submittal.
 3. Do not submit (Material) Safety Data Sheets for materials or products.
- C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
 2. Do not reproduce Contract Documents to create shop drawings.
 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Samples Procedures:
1. Transmit related items together as single package.
 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.14 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Contractor's Delegated Design:
1. Architect's review and approval of delegated design submittals is limited to performance and design criteria and review of general design concepts in accordance with the General Conditions and Specifications.
- D. Substitution:
1. The Contractor shall carry out the Work in accordance with the Contract Plans and Specifications without change in Contract Sum or Contract Time.
 - a. Proceeding with the Work, the Contractor acknowledges that they are responsible for:
 - a) Coordinating this substitution with subcontractor(s) or other Prime Contractor(s).
 - b) and any additional costs from subcontractor(s) or other Prime Contractor(s) resulting from this substitution.

3.15 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action. Shop drawings are the product and property of the Contractor, to show and delineate

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

the work scope intended by the Construction documents, shop drawings shall be followed for construction.

- B. General: Except for submittals for the record and similar purposes, where action and return on submittals is required or requested, the Architect/Engineer will review each submittal, mark with appropriate "Action".
- C. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
- D. Final Unrestricted Release: Where the submittals are marked as follows, the work covered by the submittal may proceed provided it complies with the requirements of the contract documents; acceptance of the work will depend upon that compliance.
 - 1. Marking: "No Exceptions Taken"
- E. Final-But-Restricted Release: When the submittals are marked as follows, the work covered by the submittal may proceed provided it complies with both the Architect's/Engineer's notations or corrections on the submittal and with the requirements of the contract documents; acceptance of the work will depend on that compliance.
 - 1. Markings: "Make Correction Noted"
- F. Returned for Re-submittal: When the submittal is marked as follows, do not proceed with the work covered by the submittal, including purchasing fabrication, delivery or other activity. Revise the submittal or prepare a new submittal in accordance with the Architect's/Engineer's notations stating the reasons for returning the submittal; resubmit the submittal without delay. Repeat if necessary to obtain a different action marking. Do not permit submittals with the following marking to be used at the project site, or elsewhere where work is in progress.
 - 1. Marking: "Revise and Resubmit"
- G. Marking: "Rejected".
- H. Other Action: Where the submittal is returned, marked with the Architect/Engineer's explanation, for special processing or other Contractor activity, or is primarily for information or record purposes, the submittal will not be marked.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

SUBMITTAL COVERSHEET

Port Chester-Rye Union Free School District

King Street Boilers Replacement

King Street Elementary School

ARCHITECT:

Fuller and D'Angelo Architects and Planners

45 Knollwood Rd.

Elmsford, NY10523

OWNER:

Port Chester - Rye UFSD

113 Bowman Avenue

Port Chester, NY 10573

CONTRACTOR: _____ **CONTRACT:** _____

ADDRESS: _____

TELEPHONE: _____ **FAX:** _____ **EMAIL:** _____

Facility Name: King Street Elementary School

Type of Submittal: Re-submittal: ☐ No ☐ Yes

☐ Shop Drawings ☐ Product Data ☐ Schedule ☐ Sample
☐ Test Report ☐ Certificate ☐ Color Sample ☐ Warranty

SUBMITTAL DESCRIPTION: _____

PRODUCT NAME: _____

MANUFACTURER: _____

SUBCONTRACTOR/ _____

SUPPLIER: _____

SPEC. SECTION NO.: _____ **DRAWING NO(S):** _____

PARAGRAPH: _____ **RM. OR DETAIL NO(S):** _____

NAME: _____ **DATE:** _____

STAMP SHEET

Contractor Remarks And Stamp:

We the undersigned certify that we have reviewed and coordinated this shop drawings with job conditions and Contract requirements and they are in conformance to the plans, specifications and other provisions of the Contract Documents. Any deviations from the contract documents have been identified in writing.

Architect's Comments and Stamp:

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

Consultant's Comments and Stamp

NAME: _____ DATE: _____

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADMINISTRATIVE REQUIREMENTS

SECTION 01 3216
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.
- C. Master Schedule.

1.3 RELATED SECTIONS

- A. Section 01 1000 - Summary of Contracts: Work sequence.
- B. Section 01 1010 - Milestone Schedule.
- C. Section 01 3000 - Administrative Requirements.

1.4 REFERENCE STANDARDS

- A. AGC (CPSM) - Construction Planning and Scheduling Manual; 2004.

1.5 RESPONSIBILITY

- A. The Mechanical Contractor shall be responsible for preparing and updating the contract progress schedule, .
- B. The Mechanical Contractor shall, within 10 days after contract award, be responsible for preparing and updating a **master progress schedule**.
 - 1. Mechanical Contractor shall develop a full schedule, in sufficient detail and clarity of form and technique so that each subcontractor can plan and control his work properly and the Owner's Representative can readily monitor and follow the progress for all portions of the work. The Mechanical Contractor shall complete the detailed schedule within 10 days after Letter of Award.
 - a. Identify all long lead items and dates required on site.
 - b. In the event of conflict Owner's Representative shall resolve and provide direction which is in the best interest on the District.
 - 2. The Mechanical Contractor shall coordinate their work with work of all subcontractors.
 - 3. The Mechanical Contractor shall be responsible for incorporating all schedules, of all subcontractors, and prepare a **full master schedule**, and updates, as required or directed by the Owner's Representative. The Mechanical Contractor shall coordinate their work with work of the other subcontracts.
 - 4. In the event of conflicts the Owner's Representative shall resolve and provide direction which is in the best interest on the District.
 - 5. Identify all long lead items and dates required on site.
- C. The Mechanical Contractor shall coordinate their work with work of all prime contracts.
- D. The activities identified in the schedule shall be analyzed in detail to determine activity time durations in units of whole working days. All duration's shall be the result of definitive manpower and resource planning by the Contractor.
- E. The activity data shall include activity codes to facilitate selection, sorting and preparation of summary reports and graphics. Activity codes shall be developed for:
 - 1. Area: Subdivision of the building(s) and/or site(s) into logical modules or blocks and levels. Pods A, B, C and D, etc.
 - 2. Contractor or subcontractor responsible for the work.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONSTRUCTION PROGRESS SCHEDULE

3. Specifications: 16 Division CSI format.
4. System: Division of the work into building systems for summary purposes.
5. Milestone: Work associated with completion of interim completion dates or milestones
6. Pay Item: Work identified with a pay item on the Schedule of Values.

1.6 SUBMITTALS

- A. Within 10 days after date , the Mechanical Contractor shall submit preliminary schedule to the Owner's Representative .
- B. If preliminary schedule requires revision after review, submit revised schedule within 5 days with copies to the Owner's Representative.
- C. Within 5 days after review of schedule, submit final of the complete schedule for approval.
 1. Include written certification that major or subcontractors have reviewed and accepted proposed schedule.
- D. Submit updated schedule with each Application for Payment.
- E. If requested by the Owner's Representative submit when project fall behind schedule.
- F. Submit under transmittal letter form specified in Section 01 3000 - Administrative Requirements.
- G. The contractor is are hereby notified that payment requisitions will not be processed by the Owner's Representative, nor paid by the Owner, until all schedules are reviewed, updated and approved by the Owner's Representative.

1.7 QUALITY ASSURANCE

- A. Scheduler: Contractor 's personnel or specialist Consultant specializing in construction scheduling with three years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.
- B. Contractor's Administrative Personnel: 3 years minimum experience in using and monitoring Bar Chart schedules on comparable projects.

1.8 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each phase and each activity. Identify each activity with the applicable specification section number.
- B. Submit schedule in electronic PDF format.
- C. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.
- B. Based on the preliminary development of the progress schedule and on feedback from Owner's Representative and Architect or whatever updating may have occurred during the project start-up, the Mechanical Contractor shall, for the entire work of the contract, , prepare the (Master Schedule), secure critical time commitments for performing major elements of all the work.

3.2 GENERAL CONTENT.

- A. Milestones: Include milestones in schedule, including, but not limited to, Notice of Award, Submittals, Verification of existing conditions, Removals, Delivery of Major Equipment, such as boilers, Installation, Substantial Completion, Completion of Punch List, Final Completion, and Closeout
- B. Show complete sequence of construction by activity, by room with dates for beginning and completion of each element of construction.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONSTRUCTION PROGRESS SCHEDULE

- C. Identify each item by specification section number.
- D. Provide sub-schedules to define critical portions of the entire schedule.
- E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, and dates reviewed submittals will be required from Owner's Representative and Architect. Indicate decision dates for selection of finishes.
- G. Indicate delivery dates for products identified under Allowances and products identified under Alternates.
- H. Provide legend for symbols and abbreviations used.

3.3 BAR CHARTS

- A. Include a separate bar for phases each major portion of Work or operation.
- B. Identify the first work day of each week.

3.4 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Owner's Representative at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, the schedule and resubmit within 5 days.
 - 1. When project work is behind schedule indicate revisions required to put the project on schedule.
 - 2. Payments will not be approved until satisfactory evidence is presented, to put the project on schedule.

3.5 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- D. Indicate changes required to maintain Date of Substantial Completion.
- E. Submit reports required to support recommended changes.

3.6 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Owner's Representative and Fuller & D'Angelo, P.C. and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

3.7 CHANGES, DELAYS AND EXTENSIONS OF TIME

- A. When changes or delays are experienced, the Contractor shall submit to the Owner's Representative a Time Impact Analysis illustrating the influence of each change or delay on the current Contract scheduled completion date. Each time analysis shall include a Fragnet (network analysis) demonstrating how the Contractor proposed to incorporate the change or delay into the Detailed Schedule.
 - 1. Each time analysis shall include a Fragnet (network analysis) demonstrating how the Contractor proposed to incorporate the change or delay into the Detailed Schedule.
 - 2. The analysis shall demonstrate the time impact based on the date the change was given to the Contractor, the status of construction at that point in time, and the activity duration of all effected activities.
 - 3. The activity duration used in this analysis shall be those included in the latest update of the Detailed Schedule, closest to the time of delay or as adjusted by mutual agreement.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONSTRUCTION PROGRESS SCHEDULE

- B. Each Time Impact Analysis shall be submitted within ten (10) calendar days after a delay occurs or a notice of change order is given to the Contractor. In cases where the Contractor does not submit a Time Impact Analysis for a specific change or delay with a specified period of time, it shall be mutually agreed that no time extension is required. Final evaluation of each Time Impact Analysis by the Owner's Representative shall be made within fourteen (14) calendar days after receipt unless subsequent meetings and negotiations are necessary. Adjustments in the Contract time for performance shall be made only by written change order approved by the Owner. Upon approval of the Owner, Fragnets illustrating the influence of changes and delays shall be incorporated into the Detailed Schedule by the contractor during the first update after agreement is reached.

END OF SECTION

SECTION 01 3306
NON-DISCRIMINATION CLAUSES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.
- B. During the performance of this contract, the contractor agrees as follows:
 - 1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color or national origin, and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, color or national origin. Such action shall be taken with reference, but not be limited, to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.
 - 2. The contractor will send to each labor union or representative of workers with which he has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State Commission for Human Rights, advising such labor union or representative of the contractor's agreement under these clauses hereinafter called "non-discrimination clauses" and requesting such labor union or representative to agree in writing, standing or otherwise, that such labor union or representative will not discriminate against any member or applicant for membership because of race, creed, color or natural origin. Such action shall be taken with reference, but not limited, to: recruitment, employment job assignment, promotion, upgrading, demotion, transfer, layoff, or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training. Such notice shall be given by the Contractor, and such written agreement shall be made by such labor union or representative, prior to the commencement of performance of this contract. If such labor union or representative fails or refuses so to agree in writing the Contractor shall promptly notify the State Commission of Human Rights of such failure or refusal.
 - 3. The Contractor will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Commission for Human Rights setting forth the substance of the provisions of clauses and such provisions of the State's laws against discrimination as the State Commission for Human Rights shall determine.
 - 4. The Contractor will state, in all solicitation or advertisements for employees placed by or on behalf of the contractor, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color or national origin.
 - 5. The Contractor will comply with the provisions of Section 291-299 of the Executive Law and the Civil Rights Law, will furnish all information and reports deemed necessary by the State Commission for Human Rights under these non-discrimination clauses and such sections of the Executive Law, and will permit access to his books, records and accounts by the State Commission for Human Rights, the Attorney General and the Industrial Commissioner for purposes of investigation to ascertain compliance with these non-discrimination clauses and such sections of the Executive Law and Civil Rights Law.
 - 6. This contract may be forthwith canceled, terminated or suspended, in whole or in part by the Owner upon the basis of a finding made by the State Commission for Human Rights that the contractor has not complied with these nondiscrimination clauses, and the Contractor may be declared ineligible for future contracts made by or on behalf of the Owner or agency of the Owner, until he or it satisfies the State Commission for Human Rights that he or it has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such findings shall be made by the State Commission for Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these nondiscrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been given to the

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
NON-DISCRIMINATION CLAUSES

Contractor and an opportunity has been afforded him to be heard publicly before three members of the Commission. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions or remedies otherwise provided by law.

7. If this Contract is canceled or terminated under the above clause, in addition to other rights of the Owner, provided in this contract upon its breach by the Contractor, the Contractor will hold the Owner harmless against any additional expenses or costs incurred by the Owner in completing the work or in purchasing the services, materials, equipment or supplies contemplated by this contract, and the Owner may withhold payments from the contractors in an amount sufficient for this purpose and recourse may be had against the surety on the performance bond if necessary.
8. The Contractor will include the provisions of these clauses in every sub-contract or purchase order in such a manner that such provisions will be binding upon each sub-contractor or vendor as to operations to be performed within the State of New York. The Contractor will take such action in enforcing such provisions of such Sub-Contract or purchase order as the contracting agency may direct, including sanctions or remedies for non-compliance. If the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor shall promptly so notify the Attorney General, requesting him to intervene and protect the interests of the Owner.

END OF SECTION

SECTION 01 3307
SED SPECIAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies special requirements of State Education Department, including Commissioner's Regulation Part 155.5, 155.7
 - 1. Copies of Commissioner's Regulation Part 155.5, 155.7 are available on the State Education Department's web site. www.p12nysed.gov

1.3 CERTIFICATE OF OCCUPANCY

- A. The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a Certificate of Occupancy.

1.4 GENERAL SAFETY AND SECURITY DURING CONSTRUCTION

- A. All construction materials shall be stored in a safe and secure manner.
 - 1. Fences around construction supplies or debris shall be maintained.
 - 2. Gates shall always be locked unless a worker is in attendance, to prevent unauthorized entry.
 - 3. 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.
 - 4. Workers shall be required to wear photo-identification badges at all times for identification and security purposes while working at occupied sites.

1.5 SEPARATION OF CONSTRUCTION

- A. Separation of construction areas from occupied spaces. Construction areas that 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. Metal stud and gypsum board (Type X) 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 may be assigned for construction worker use during work hours, when approved by the Owner. Workers may not use corridors, stairs or elevators designated for students or school staff.
 - a. 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.
 - b. All occupied parts of the building affected by renovation activity shall be cleaned at the close of each work day. School buildings occupied during a construction project shall maintain required health, safety and educational capabilities at all times that classes are in session.

1.6 FIRE PREVENTION

- A. There is no smoking on school property for fire prevention and New York State Law.
- B. Any holes in floors or walls shall be sealed with a fire resistant material.
- C. Owner shall maintain existing fire extinguishers.
- D. Fire alarm and smoke detection systems shall remain in operation at all times.

1.7 CONSTRUCTION DIRECTIVES

- A. Construction Noise. 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.
 - 1. Construction Fume Control: Each Contractor shall be responsible for the control of chemical fumes, gases, and other contaminants produced by welding, gasoline or diesel engines, roofing, paving, painting, etc. to ensure they do not enter occupied portions of the building or air intakes.
 - 2. Off-Gassing Control. Each 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 manufacturer's recommendations before a space can be occupied.

1.8 ASBESTOS/LEAD PAINT/HAZARDOUS MATERIAL (If applicable)

- A. Asbestos/Lead Test Asbestos Letter. Indication that all school areas to be disturbed during renovation or demolition have been or will be tested for lead and asbestos.
- B. Asbestos Code Rule 56. Large and small asbestos abatement projects as defined by 8 NYCRR 155.5(k) shall not be performed while the building is occupied. Note: It is SED's interpretation that 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 non combustible construction. The isolated portions (the occupied portion and the portion under construction) of the building must contain separate code compliant exits. The ventilation systems must be physically separated and sealed at the isolation barrier(s).
 - 1. Asbestos TEM. The asbestos abatement area shall be completely sealed off from the rest of the building and completely cleaned and tested by TEM prior to re-entry by the public.
- C. Lead Abatement Projects. A project that contains materials identified to be disturbed which tests positive for lead shall include that information in the Construction Documents. The Construction Documents must address the availability of lead testing data for the building and include a statement that the OSHA regulations be followed and that cleanup and testing be done by HUD protocol.
- D. Hazardous Material: A project that disturbs or may disturb PCB containing material will have all work done in accordance with all applicable regulations.

1.9 VENTILATION

- A. The work, as scheduled in the existing building, is to be performed when the facility is unoccupied. In the event that work is required to be performed during times when the building is occupied, all existing ventilation system between areas of work and areas of occupancy shall be disconnected, separated and code complying ventilation requirements be provided the occupied area. Prior to such work commencing the contractor shall submit a plan, for review indicating procedure to be taken. Also see paragraph 1.5 above for additional requirements."

1.10 ELECTRICAL CERTIFICATION:

- A. The electrical subcontractor shall obtain UL Certification or Inspection from a Certified Electrical Organization for electrical installation.

1.11 EXITING

- A. Exiting: For work to be performed when school is in session all exiting will be clear and usable at all times. For work to be performed when school is not in session or after hours maintain legal exiting.
- B. Exits required shall be clear and usable at all times.
- C. All modifications or changes to the exiting plan shall be approved by Fuller and D'Angelo, Architects and Planners..

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SED SPECIAL REQUIREMENTS

1.12 CONSTRUCTION WORKER IN OCCUPIED AREAS

- A. No worker shall be permitted in areas occupied by students. If access is required by the contractor's personnel they will be supervised by District personnel. Contractor shall provide 24 hour notice to the Owner when such access will be required.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SED SPECIAL REQUIREMENTS

SECTION 01 3553
SITE SAFETY AND SECURITY PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. The safety requirements, which must be followed by the Contractor during the execution of this contract.
- B. The Contractor agrees that the work will be completed with the greatest degree of safety and:
 - 1. To conform to the requirements of the Occupational Safety and Health Act (OSHA) and the Construction Safety Act including all standards and regulations that have been or shall be promulgated by the governmental authorities which administer such acts, and shall hold the Owner, Owner's Representative, and Architect and all their employees, consultants and representatives harmless from and against and shall indemnify each and everyone of them for any and all claims, actions, liabilities, costs and expenses, including attorneys fees, which any of them may incur as a result of non-compliance.
- C. Security measures including entry control, personnel identification, and miscellaneous restrictions.

1.3 REFERENCES:

- A. Code of Federal Regulations OSHA Safety and Health.

1.4 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary of Contracts: Use of premises and occupancy .
- B. Section 01 5000 - Temporary Facilities and Controls01 5000: Temporary lighting and barriers and enclosures.

1.5 DEFINITIONS

- A. Public shall mean anyone not involved with or employed by the contractor to perform the duties of this contract.
- B. Site shall mean the limits of the work area.
- C. Contractor shall mean the contractor, his/her subcontractors and any other person related to the contract execution.

1.6 SECURITY PROGRAM

- A. Security and Protection Facilities and Services shall be the responsibility of the HVAC or the Contractor and all costs shall be included in their bid.
- B. Protect Work, existing premises and Port Chester - Rye UFSD's operations from theft, vandalism, and unauthorized entry.
- C. Initiate program in coordination with Port Chester - Rye UFSD's existing security system thru the Owner at project mobilization.
- D. Maintain program throughout construction period until directed by Owner.

1.7 ENTRY CONTROL

- A. The existing building contains a security alarm system maintained and operated by the Owner. Access into the existing building shall not be permitted unless the Owner is notified and arrangements made to deactivate the system
- B. Restrict entrance of persons and vehicles into Project site and existing facilities.Owner
- C. Allow entrance only to authorized persons with proper identification.
- D. Maintain log of workers and visitors, make available to Owner on request.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SITE SAFETY AND SECURITY PROCEDURES

- E. Port Chester - Rye UFSD will control entrance of persons and vehicles related to Port Chester - Rye UFSD's operations.
- F. Coordinate access of Port Chester - Rye UFSD's personnel to site in coordination with Owner and Port Chester-Rye UFSD and security forces thru the Owner.
- G. Install substantial and durable general temporary enclosure of partially completed areas of construction. Provide locking entrances adequate to prevent unauthorized entrance, vandalism, theft and similar violations of project security.
- H. Traffic Control
 - 1. The HVAC Contractor shall maintain access for emergency vehicles and pedestrians and protect from damage all persons and property within the limits of and for the duration of the contract; as required by the contract documents.
 - 2. Conduct construction operations so that the traveling public and pedestrian safety is subjected to a minimum of hazard and delay.
 - 3. The HVAC contractor shall perform the following minimum requirements and as directed by Owner.
 - a. Keep the surface of the traveled way free from mounds, depressions, and obstructions of any type which could present hazards or annoyance to traffic.
 - b. Keep the surface of all pavements used by the public free and clean of all dirt and debris or other obstructions to provide safe traveled ways.
 - c. Control dust and keep the traveled way free from materials spilled from hauling and construction equipment.
 - d. Provide all cones, barricades, signs and warning devices as may be required and/or as ordered by Owner to safely carry out the foregoing. All such signs and devices shall be fabricated and placed in accordance with the latest "Federal Manual on Uniform Control Devices". Use of Open Flares Is Prohibited.
 - e. Prepare and submit for approval sketch/drawing showing proposed location and type of signs, barricades and devices as required in Par. 6 above.
 - f. The HVAC Contractor shall cover with steel plates all open trenches at the close of each work day. Such plates to abut each other and be wedged at each end of trench to prevent plates from sliding open. Coordinate as required with other Contractors and Owner's Representative.
 - 4. Ingress and Egress
 - a. The HVAC contractor shall provide and maintain at all times safe and adequate ingress and egress to and from site at existing or at new access points consistent with work, unless otherwise authorized by the Owner's Representative.
 - 5. If, upon notification by Owner's Representative, and the Contractor(s) fails to correct any unsatisfactory condition within 24 hours of being so directed, Owner's Representative will immediately proceed with adequate forces to properly maintain the project and the entire cost of such maintenance shall be deducted (back charged) from any moneys due the contractor.
 - 6. All traffic control costs shall be included in the base bid for furnishing all labor, material and equipment including the cost of any and all incidental required by job conditions as ordered by Owner's Representative .
 - 7. Withholding of Payment
 - a. No payment will be made under Maintenance and Protection of Traffic for each calendar day during which there are substantial deficiencies in compliance with the specification requirements of any subsection of this section, as determined by the Architect/Engineer.
 - b. The amount of calendar day nonpayment will be determined by dividing the lump sum amount bid for Maintenance and Protection of Traffic by the number of calendar days

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SITE SAFETY AND SECURITY PROCEDURES

between the date of the contractor commences work and the date of completion, as designated in the proposal, without regard to any extension of time.

- c. In addition, for each calendar day or part thereof of any unsatisfactory work violating the required provisions of any subsection under Traffic Control, liquidated damages will be assessed as listed in the General Conditions.
- d. However, where major nonconformance with the requirements of this specification is noted by the Owner's Representative and prompt contractor compliance is deemed not to be obtainable, all contract work may be stopped by direct order of the Owner's Representative regardless of whether corrections are made by the Owner's Representative as stated in the paragraph above

1.8 FIRE PREVENTION AND CONTROL

- A. The Contractor shall provide Fire Extinguishers as follows: Provide type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical fires or grease-oil-flammable liquid fires. In other locations provide either type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.
- B. All required exits, fire alarm, and security and similar systems shall be maintained and operable throughout the entire construction contract.
 - 1. Contractor(s) will be back-charged for all fines imposed for false alarms or service calls.
- C. Free access to fire hydrants and standpipe connections shall be maintained at all times during construction operations. Portable fire extinguishers shall be provided by the Contractor and made conveniently available throughout the construction site. Contractor(s) shall notify their employees of the location of the nearest fire alarm pull stations at all locations where work is in progress.
- D. The Contractor shall take all possible precautions for the prevention of fires. Where flame cutting torches, blow torches, or welding tools are required to be used within the building, their use shall be as approved by the Owner's Representative at the site. When welding tools or torches of any type are in use, have available in the immediate vicinity of the work a fire extinguisher of the dry chemical 20 lbs. Type. The fire extinguisher(s) shall be provided and maintained by the Contractor doing such work.
- E. Fuel for cutting and heating torches shall be gas only and shall be contained in Underwriters laboratory approved containers.
- F. Storage of gas shall be in locations as approved by the Owner's Representative and subject to Fire Department regulations and requirements.
- G. No volatile liquids shall be used for cleaning agents or as fuels for motorized equipment or tools within a building except with the express approval of the Owner and/or Architect and in accordance with local codes. On-site bulk storage of volatile liquids shall be outside the buildings at locations directed by the Owner, who shall determine the extent of volatile liquid allowed within the building at any given time.
- H. The Contractor shall comply with the following requirements relating to compressed gas:
 - 1. Where compressed gas of any type is used for any purpose at the site, it shall be contained in cylinders complying with ICC regulations. Gases of different types shall not be stored together except when in use and when such proximity is required.
 - 2. All gas cylinders shall be stored in sheds constructed of noncombustible materials. Sheds shall be well ventilated and without electric lights or fixtures and shall be located as far from other buildings as is practicable. All gas cylinders not in actual use, or in proposed immediate use, shall be removed from the building under construction or reconstruction. Empty gas cylinders shall be removed prior to bringing in a replacement cylinder. Cylinders shall at all times be supported and braced in an upright position. When not in use, the protective cap shall be screwed over the valve.
 - 3. All persons required to handle gas cylinders or to act as temporary firemen (Fire Watchers) shall be able to read, write and understand the English language; they shall also be required by the

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SITE SAFETY AND SECURITY PROCEDURES

Contractor to read Part 3 of Pamphlet P-1 "Safe Handling of Compressed Gases" published by the Compressed Gas Association, 500 Fifth Avenue, New York, NY 10036.

4. Where local ordinances are in effect regarding gas cylinders, (their use, appurtenances and handling), such ordinances shall supplement the requirements of this paragraph. All personnel engaged in fire watch shall be certified by the Local Fire Department having jurisdiction.
5. LP-Gas Heating will not be permitted in enclosed areas below grade.
6. Any cylinder not having the proper ICC markings or reinspection marking, or any cylinder with a leak shall be isolated immediately away from any building and the supplier shall be immediately notified; such other precautions as may be required to prevent damage or injury shall also be taken by the Contractor.

1.9 PERSONNEL IDENTIFICATION

- A. Provide identification badge or other approved identification to each person authorized to enter premises.
 1. Identification To Include: Personal photograph, name and employer.
- B. Maintain a list of accredited persons, submit copy to Port Chester - Rye UFSD on request.
- C. Require return of badges at expiration of their employment on the Work.
- D. Fingerprinting: The Contractor acknowledges and agrees that he/she or its employees may be subject to fingerprinting and a criminal history record check as may be required by the Educational Law of the State of State of New York. In such an event, Contractor agrees to cooperate with Port Chester-Rye Union Free School District and to complete any and all forms or procedures, all at no cost or expense to the Port Chester-Rye Union Free School District.

1.10 RESTRICTIONS

- A. Do not allow cameras on site or photographs taken except by written approval of Construction Manager.

PART 2 PRODUCTS -

2.1 MATERIALS

- A. Refer to Section 01 5000 - Temporary Facilities and Controls for additional barrier requirements.
- B. Barriers shall be constructed of sturdy lumber having a minimum size of 2 x 4.
- C. Signs shall be made of sturdy plywood of 1/2" minimum thickness and shall be made to legible at a distance of 50 feet.

PART 3 EXECUTION

3.1 GENERAL

- A. In the performance of its contract, the Contractor shall exercise every precaution to prevent injury to workers and the public or damage to property.
 1. The Contractor shall, at their own expense, provide temporary structures, place watchmen, design and erect barricades, fences and railings, give warnings, display such lights, signals and signs, exercise such precautions against fire, adopt and enforce such rules and regulations, and take such other precautions as may be necessary, desirable or proper or as may be directed.
 2. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work to be done under this contract. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss including but not limited to:
 - a. All employees working in connection with this contract, and other persons who may be affected thereby.
 - b. All the work materials and equipment to be incorporated therein whether in storage on or off site; and including trees, shrubs, lawns, walks, pavements, facilities not designated for removal, relocation or replacement in the course of construction.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SITE SAFETY AND SECURITY PROCEDURES

- B. The Contractor's duties and responsibilities for the safety and protection of the work: shall continue until such time as all the work is completed and contractor has removed all workers, material and equipment from the site, or the issuance of the certificate of final completion, whichever shall occur last.
- C. The Contractor shall use only machinery and equipment adapted to operate with the least possible noise, and shall so conduct his operations that annoyance to occupants of the site and nearby homes and facilities shall be reduced to a minimum
- D. It shall be the responsibility of the Contractor to insure that all employees of the contractor and all subcontractors, and any other persons associated with the performance of their contract shall comply with the provisions of this specification.
- E. The Contractor shall clean up the site daily and keep the site free of debris, refuse, rubbish, and scrap materials. The site shall be kept in a neat and orderly fashion. Before the termination of the contract. The Contractor shall remove all surplus materials, falsework, temporary fences, temporary structures, including foundations thereof.
- F. The Contractor shall follow all rules and regulations put forth in the Code of Federal Regulations (OSHA Safety and Health Standards).

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SITE SAFETY AND SECURITY PROCEDURES

**SECTION 01 3554
PREVAILING WAGE RATES**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 PROVISIONS OF LAW DEEMED INSERTED

- A. Each and every provision of law and clauses required by law to be inserted in the Contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the Contract shall forthwith be physically amended to make such insertion.
- B. The Contractor and subcontractors shall comply with applicable provisions of the Labor Law and all other state laws and Federal and Local statutes ordinances, codes, rules and regulations and orders which are applicable to the performance of this contract. The Contractor shall likewise require all sub-contractors to comply therewith. The attention of the Contractor is particularly, but not exclusively, directed to Sections 220 through 223 of the New York State Labor Law and Sections 109 of the New York State Municipal Corporations Law and the following:
 - 1. The Contractor shall post the prevailing wages in a conspicuous place on the job site.
 - 2. Posters shall list the Department of Labor's Public work field offices with telephone numbers.
- C. All contractors and subcontractors shall furnish each of its workers with written notification of the applicable prevailing wage rates and supplements at the commencement of and at periodic intervals during the performance of the Work as required by the New York Labor Law
- D. The Contractor shall provide and keep certified payroll records at the job site.
- E. Prevailing Wages Schedule for this project can be obtained by the bidders on the DOL web site as follows:
 - 1. <http://www.labor.ny.gov/workerprotection/publicwork/PWContents.shtm>.
 - 2. Click on: "Request for Wage and Supplement Information" (PW39).
 - 3. View "Previously Requested Prevailing Wage Schedule" using PRC# 2022003463
- F. NOTE THESE WAGE RATES ARE EFFECTIVE UNTIL JUNE 30, of each year. Updated schedules will be available on the Department of Labor web site: www.labor.state.ny.us

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PREVAILING WAGE RATES

**SECTION 01 4000
QUALITY REQUIREMENTS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. Testing and inspection agencies and services.
- D. Control of installation.
- E. Manufacturers' field services.
- F. Defect Assessment.

1.3 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions: Inspections and approvals required by public authorities.
- B. Section 01 3000 - Administrative Requirements: Submittal procedures.
- C. Section 01 4216 - Definitions.
- D. Section 01 4219 - Reference Standards.
- E. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.4 REFERENCE STANDARDS

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2017.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2015a, with Editorial Revision (2016).
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2015.
- G. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2017.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Testing Agency Qualifications:
 - 1. Prior to start of Work, 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.
- C. Design Data: Submit for Owner's Representative's and Architects knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Port Chester - Rye UFSD's information.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALITY REQUIREMENTS

- D. Test Reports: After each test/inspection, promptly submit report to Owner's Representative and Architect.
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/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Owner's Representative and Architect , provide interpretation of results.
 2. Test report submittals are for Owner's Representative and Architect 's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Owner's Representative and Architect , 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 Owner's Representative and Architect .
- F. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's Representative and Architect 's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- G. Manufacturer's Field Reports: Submit reports for Owner's Representative and Architect 's benefit as contract administrator.
1. Submit report in PDF format within 30 days of observation to Owner's Representative and Architect for information.
 2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications:
1. Prior to start of work, 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. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

1.7 REFERENCES AND STANDARDS - See Section 01 4219

1.8 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. As indicated in individual specification sections, Contractor or shall employ and pay for services of an independent testing agency to perform specified testing which is the responsibility of the Contractor.

- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. Contractor Employed Agency:
 - 1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
 - 2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
 - 3. Laboratory: Authorized to operate in New York.
 - 4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
 - 5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Construction Manager before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 TESTING AND INSPECTION

- A. See individual specification sections for testing and inspection required.
- B. Testing Agency Duties:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at site. Cooperate with Owner's Representative 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 Owner's Representative, Contractor, and Architect of observed irregularities or non-conformance of Work or products.
 - 6. Perform additional tests and inspections required by Owner's Representative, Contractor, and Architect
 - 7. Submit reports of all tests/inspections specified.
- C. Limits on Testing/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 the Contractor.
 - 4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALITY REQUIREMENTS

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Notify Architect and Construction Manager and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 6. Arrange with Port Chester - Rye UFSD's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Owner's Representative and Architect.
- F. Re-testing required because of non-conformance to specified requirements shall be shall be performed by the same agency on instructions by Owner's Representative and Architect paid for by Contractor.

3.3 CONTRACTOR'S TESTING AND INSPECTION

- A. Testing and Inspections shall be conducted by a qualified testing agency or special inspector, approved by the Owner's Representative as required by authorities having jurisdiction and as indicated in individual Specification Sections as the contractor's responsibility including but not limited to:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Owner's Representative 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 and Owner's Representative with 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.
 7. All design mixes.
 8. Testing and balancing of related mechanical and plumbing.
 9. Testing Fire Alarm, smoke detection systems, and emergency light
 10. Electrical systems.
 11. Electrical Certification: The Electrical Contractor shall obtain UL Certification or Inspection from a Certified Electrical Organization for electrical installation.
 12. Testing as required by individual specification sections.

3.4 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start up of equipment, testing, and adjusting testing as applicable, and to initiate instructions when necessary.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALITY REQUIREMENTS

- B. Submit qualifications of observer to Owner's Representative and Contractor 30 days in advance of required observations.
 - 1. Observer subject to approval of Owner's Representative and Architect .
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.5 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.
- B. If, in the opinion of Port Chester - Rye UFSD, it is not practical to remove and replace the work, Port Chester - Rye UFSD will direct an appropriate remedy or adjust payment.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
QUALITY REQUIREMENTS

**SECTION 01 4100
REGULATORY REQUIREMENTS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY of Reference Standards

- A. Regulatory requirements applicable to this project are the following:
- B. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- C. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- D. FED-STD-795 - Uniform Federal Accessibility Standards (UFAS); 1988.
- E. 29 CFR 1910 - Occupational Safety and Health Standards; current edition.
- F. State of New York amendments to the following.
- G. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- H. NFPA 1 - Fire Code; 2018.
- I. NFPA 101 - Life Safety Code; 2017.
- J. ICC (IBC) - International Building Code; 2018.
- K. CODES, PERMITS, FEES, ETC
 - 1. The Owner shall file and obtain the Building Permit.
 - 2. Each Contractor shall furnish and pay for all permits, fees and other installation costs required for the various installations by governing authorities and utility companies; prepare and file drawings and diagrams required; arrange for inspections of any and all parts of the work required by the authorities and furnish all certificates necessary to the Architect and Owner as evidence that the work installed under this Section of the Specifications conforms with all applicable requirements of the Municipal and State Codes, National Board of Fire Underwriters, National Electric Code.
 - 3. Any items of work specified herein and shown on the drawings which conflict with aforementioned rules, regulations and requirements, shall be referred to the Architect and Owner for decision, which decision shall be final and binding.
 - 4. The work shall not be deemed to have reached a state of completion until the certificates have been delivered
 - 5. The building is to be constructed under the following Rules and Regulations of the New York State Uniform Fire and Building Codes known as the "Building Codes of the State of New York" and consist of the following:
 - a. Building Code of New York State
 - b. State Education Department Planning Standards, including Commissioner's Regulation Part 155.5, 155.7
 - c. Energy Conservation Construction Code of New York State
 - d. Fire Code of New York State
 - e. Fuel Gas Code of New York State
 - f. Mechanical Code of New York State
 - g. Plumbing Code of New York State
 - 6. Classification of Construction: Type IIA.
 - 7. Occupancy Classification: Education E

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
REGULATORY REQUIREMENTS

8. State Education Department: Planning Standards is applicable to the work. Any conflicts between the Building Codes of New York and the State Education Department Planning Standards, the most restrictive shall apply. Copies of the Planning standards are available at the SED web site.
9. Electrical Certification: The Electrical contractor shall obtain UL Certification or Inspection from a Certified Electrical Organization for certification of electrical installations.
- L. OSHA Part 1926 Safety and Health Regulations for Construction.
- M. Federal Regulation for Asbestos Abatement
 1. Title 30 CFR Part 61, Subpart G; [The Transport and Disposal of Asbestos Waste]
 2. The Transport and Disposal of Asbestos Waste]
 3. Title 40 CFR, Part 763 Asbestos Containing Materials in Schools; Final Rule and Notice
 4. Title 49 CFR Parts 106, 107, and 171-179. The Transportation Safety Act of 1974 and the Hazardous Material Transportation Act..
 5. Public Law 101-637 ASHARA
- N. New York State Official Compilation of Codes, Rules and Regulations
 1. Title 12 Part 56
 2. Title 10 Part 73
 3. Title 6 Parts 360-364
 4. Labor Law - Article 30 and Sections 900-912
 5. All applicable Additions, Addenda, Variances and Regulatory Interpretation Memoranda

1.3 MANDATORY OSHA CONSTRUCTION SAFETY AND HEALTH TRAINING

- A. Pursuant to NYS Labor Law §220-h - All laborers, workers and mechanics working on the site are required to be certified as having successfully completed an OSHA construction safety and health course of at least 10 hours prior to performing any work on the project.
- B. All contractors and their subcontractor's project superintendent, employees, directly or indirectly employed by the contractor to work on the project must at all times, whenever on the Owner's property, wear an ID badge or other identification, safety vest, hard hat, etc. and all other required personal protective equipment as required by OSHA

1.4 RELATED REQUIREMENTS

- A. Section 01 4000 - Quality Requirements.
- B. Section 01 4219 - Reference Standards
- C. Division 22 - Plumbing.
- D. Division 23 - Heating, Ventilation and Air Conditioning.
- E. Division 26 - Electrical.

1.5 QUALITY ASSURANCE

- A. Designer Qualifications: Where delegated engineering design is to be performed under the construction contract provide the direct supervision of a Professional Engineer experienced in design of this type of work and licensed in New York .

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 4216
DEFINITIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section supplements the definitions contained in the General Conditions.
- B. Other definitions are included in individual specification sections.

1.3 DEFINITIONS

- A. Owner: The term "Owner shall mean Port Chester-Rye Union Free School District and their duly authorized representative.
 - 1. The word "Owner" and the words "School Board", "City School District", "Board of Education", "Union Free School District", "Central School District", etc., shall have the same meaning.
- B. Architect: The term "Architect" or "Engineer" or the words "Architect/Engineer" shall mean the Professional Architect responsible for the contract documents Fuller and D'Angelo Architects and Planners.
- C. Owner's Representative: The term Owner's Representative shall mean Ray Renda - Director of Facilities
- D. Construction Manager: The term Construction Manager shall mean School Construction Consultants
- E. Contractor for Construction: The term "Contractor for Construction", "General Contractor" "Contractor for General Work" "Construction Contractor" shall have the same meaning.
- F. Contractor for Plumbing: The term "Plumbing Contract", "Plumbing Contractor" "Contractor for Plumbing" shall have the same meaning.
- G. Contractor for Mechanical Contractor: The term "Mechanical Contractor" "HVAC Contract", "HVAC Contractor" "Contractor for HVAC", "Ventilation Contractor" shall have the same meaning.
- H. Contractor for Electrical: The term "Electrical Contract", Electrical Contractor" "Contractor for Electric" shall have the same meaning.
- I. Contractor for Site Work: The term "Site Work Contract", Field Contractor" "Athletic Surface Contractor" shall have the same meaning.
- J. Contractor(s): Shall include all separate contractor(s) have contracts with the Owner for the same project and may include but not limited to: General Construction, Plumbing, HV, HVAC, Electrical, Site and others
- K. Prime Contractors: Shall include all separate contractors have contractors with the Owner for the same project and may include but not limited to: General Construction, Plumbing, Mechanical Contractor, Electrical, and Site and others
- L. "Approved": The term "approved," when used in conjunction with Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract and Section 01 3000 - Administrative Requirements.
- M. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Architect, requested by Architect, and similar phrases.
- N. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
DEFINITIONS

- O. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- P. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.
- Q. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- R. 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 trades people of the corresponding generic name.
- S. "Project site" is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be built.
- T. The term "Building Code" shall mean the Building Code of the State of New York including all amendments and reference standards to date.
- U. "Work" - Labor, materials, equipment, apparatus, controls, accessories, and all other items customarily furnished and/or required for proper and complete disconnection and reconnection, installation of new work.
- V. "Wiring" - Conduit, fittings, wire, junction and outlet boxes, switches, cutouts, and receptacles and all items necessary or required in connection with or relating to such wiring.
- W. "Concealed" - Embedded in masonry or other construction, installed behind wall furring, within double partitions, or hung ceilings, in trenches, or in crawl spaces.
- X. "Exposed" - Not installed underground or "Concealed" as defined above.
- Y. Furnish: The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations..
- Z. Install: The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- AA. 'Noted' - as indicated on the drawings and/or specifications.
- AB. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- AC. Provide: To furnish and install complete and ready for the intended use.
- AD. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 4219
REFERENCE STANDARDS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Requirements relating to referenced standards.

1.3 RELATED REQUIREMENTS

- A. Document 00 7200 - General Conditions: Reference standards.

1.4 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Comply with the reference standard of date of issue specified in this section, except where a specific date is established by applicable code.
- C. Obtain copies of standards when required by Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Date of Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Fuller and D'Angelo Architects and Planners before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Fuller and D'Angelo Architects and Planners shall be altered by Contract Documents by mention or inference otherwise in any reference document.

1.5 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract and Section 01422 Definitions

1.6 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents, including reference standards in codes having jurisdiction, 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. 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 the requirements. Refer uncertainties to Architect for a decision before proceeding.
- C. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
- D. Where copies of standards are needed to perform a required construction activity, obtain copies directly from the publication source and make them available on request.

PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS

2.1 Abbreviations and Names:

- A. Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of these entities. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries or the internet.

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary electric power and light.
- C. Temporary heat.
- D. Ventilation.
- E. Temporary telephone service.
- F. Temporary sanitary facilities.
- G. Temporary Controls: Barriers, enclosures, and fencing.
- H. Storage shed.
- I. Dust control.
- J. Temporary enclosures.
- K. Hoists and temporary elevator use
- L. Waste removal facilities and services.
- M. Construction aids and miscellaneous services and facilities.
- N. Temporary fire protection
- O. Enclosure fence for the construction areas.
- P. Environmental protection.

1.3 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements for submittals.
- B. Section 01 3553 - Site Safety and Security Procedures
- C. Section 01 7000 - Execution and Closeout Requirements for progress cleaning requirements.
- D. Divisions 2 through 26 temporary heat, ventilation, and humidity requirements for products in those Sections.

1.4 REFERENCE STANDARDS

- A. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

1.5 REFERENCES

- A. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Refer to guidelines for Bid Conditions for "Temporary Job Utilities and Services" as prepared jointly by AGC and ASC for recommendations.

1.6 REPORTS AND PERMITS:

- A. During the progress of the Work, the contractor shall submit copies of reports and permits required by governing authorities, or necessary for the installation and efficient operation of temporary services and facilities

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TEMPORARY FACILITIES AND CONTROLS

- B. Submit copies of reports of tests, inspections, and similar procedures performed on temporary utilities before, during and after performance of work. Submit copies of permits, easements and similar documentation necessary for installation, use and operation of temporary utility services.

1.7 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. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- D. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.8 PROJECT CONDITIONS

- A. General: The contractor shall provide each temporary service and facility ready for use at each location, when first needed to avoid delays in performance of work. Maintain, expand as required, and modify as needed throughout the progress of the work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.
 - 1. With the establishment of the job progress schedule, the contractor shall establish a schedule for implementation and termination of service for each temporary utility. At the earliest feasible time, and when acceptable to the Owner's representative and Architect/Engineer, change over from use of temporary utility service to use of the permanent service, to enable removal of temporary utilities and to eliminate possible interference with completion of the Work.
- B. Conditions of Use: Operate temporary services and facilities in a safe and efficient manner. Do not overload, and do not permit temporary services and facilities to interfere with the progress of work, or occupancy of existing facility by owner. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.
- C. Temporary Utilities: Do not permit freezing of pipes, flooding or the contamination of water sources.
- D. Temporary Construction and Support Facilities: Maintain temporary facilities in a manner to prevent discomfort to users. Take necessary fire prevention measures. Maintain temporary facilities in a sanitary manner so as to avoid health problems.
- E. Security and Protection: Maintain site security and protection facilities in a safe, lawful, publicly acceptable manner. Take measures necessary to prevent site erosion.

1.9 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Water supply, consisting of connection to existing facilities.
- B. Existing facilities may be used.
- C. New permanent facilities may not be used.
- D. Use trigger-operated nozzles, with back flow devices, for water hoses, to avoid waste of water.

1.10 DIVISION OF RESPONSIBILITIES

- A. **The 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.
 3. Supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
 4. Special power requirements for installation of its own work such as welding.
 5. Its own field office complete with necessary furniture, utilities, and telephone service.
 6. Its own storage and fabrication sheds.
 7. All hoisting and scaffolding for its own work.
 8. Collection and disposal of its own hazardous, dangerous, unsanitary, or other harmful waste material.
 9. Collection and disposal of major equipment removed such as fans, toilet fixtures, and light fixtures.
 10. Collection of general waste and debris and disposing into containers provided by the Contractor,
 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 toilets, including disposable supplies.
 14. Temporary wash facilities, including disposable supplies.
 15. First Aid Station and Supplies.
 16. Rodent and pest control.
 17. Barricades, warning signs, and lights.
 18. Site/construction enclosure fence.
 19. Temporary dust control.
- B. The Contractor is responsible and pays all costs for the following at the King Street School :
1. Temporary heat.
 2. Maintaining existing heating system in service during the period between September 15 and June 15. Contractor shall provide all piping, valves, controls, etc., and labor and materials required to maintain operation of existing heating system where affected by the work should new Boilers not be operational.
- C. Temporary Lighting: The Contractor shall provide and pay all costs to provide local switching of temporary lighting, spaced to allow lighting to be turned off in patterns to conserve energy, retain light suitable for work-in-progress, access traffic, security check and project lock-up to accommodate performance of work during the construction period.
- D. Contractor shall maintain power and lighting during the normal work week during the hours established by Owner's Representative whether or not they fall within established working hours.

1.11 ELECTRIC WELDERS

- A. Separate Power Sources Required: Power for electric welders and for other loads larger than the maximum allowable sizes shall be taken from portable power sources provided, paid for and operated by the Contractor or Sub-Contractor requiring the use of such equipment. Remove such power sources when no longer needed.

1.12 TELECOMMUNICATIONS SERVICES

- A. The Contractor shall provide and pay for its own telephone service. Provide mobile phone service for all field superintendents and foreman.

1.13 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Toilets: Use of the Owner's existing toilet facilities will not be permitted
- C. Maintain daily in clean and sanitary condition.
- D. At end of construction, return facilities to same or better condition as originally found.
- E. Sanitary Facilities: Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with governing regulations including safety and health codes for the type, number, location, operation and maintenance of fixtures and facilities; provide not less than specified requirements. Install in locations which will best serve the project's needs.
 - 1. Responsibilities: The Mechanical Contractor, Contract #1, is responsible for temporary sanitary facilities and their maintenance, including supplies, **at the King Street School.**
 - 2. Install self-contained toilets to the extent permitted by governing regulations.
 - 3. Supply and maintain toilet tissue, paper towels and other disposable materials as appropriate for each facility, for full contract duration. Provide covered waste containers for used material.
 - 4. Provide separate toilet facilities for male and female construction personnel.

1.14 BARRIERS

- A. Responsibility: The Mechanical Contractor shall be responsible for construction barriers required for the project.
 - 1. Construction barriers required exclusively for each prime contractor are the responsibility of that contractor.
- B. Barricades, Warning Signs and Lights: Comply with recognized standards and code requirements for erection of substantial, structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public, of the hazard being protected against. Provide lighting where appropriate and needed for recognition of the facility, including flashing red lights where appropriate
 - 1. Sign Materials: For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness indicated. Provide exterior grade acrylic-latex-base enamel for painting sign panels and applying graphics.
- C. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations .
- D. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

1.15 FENCING

- A. The Mechanical Contractor shall be responsible for its own fencing.
- B. Construction: Commercial grade chain link fence.
- C. Provide 8 foot high fence around construction site; equip with vehicular and pedestrian gates with locks as required.
- D. Locate where indicated, or if not indicated, enclosed portions of the site determined to be sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs and other animals from easily entering the site, except through entrance gates.
 - 1. Material:
 - a. Steel fencing: Galvanized Chain Link and galvanized gates (non-climbable size).
 - b. Fabric: No. 9 GA galvanized, steel wire mesh, furnish one-piece fabric widths for fencing up to 12' in height indicated in the Contract Documents.
 - c. Framing and Accessories: End, Corner and Pull posts: 2.375" OD steel pipe.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TEMPORARY FACILITIES AND CONTROLS

- d. Line Posts: Space 10'-0" O.C. maximum. 1.90" steel pipe or 1.875" x 1.625 C-sections.
- e. Fence Rails: Locate at top and bottom of fabric. Post brace assembly - manufacturer's standard.
- f. Wire ties: For tying fabric to line posts use wire ties spaced 12" O.C.
- g. Height: 8'

1.16 EXTERIOR ENCLOSURES

- A. Responsibilities: The Mechanical Contractor, is responsible for temporary enclosure for at **the King Street School**.
- B. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.
- C. At the earliest practical time provide temporary enclosure of materials, equipment, work in progress and completed portions of work to provide protection to the Work and employees from effects of exposure, foul weather, other construction operations, and similar activities on the site.
- D. Provide temporary enclosures where temporary heat is needed and permanent building enclosure is not yet completed, and there is no other provision for containment of temporary heat. Coordinate enclosures with ventilating and material drying or curing requirements to avoid dangerous conditions and adverse effects.
- E. Enclosure: Install tarpaulins or equivalent materials securely, using a minimum of metal framing, 4" - 20 ga. metal framing 16" o.c., and ½" plywood plus 6 mil poly for secure and weather tight protection of the school. Individual openings of 16-sq. ft. or less may be closed with plywood or similar materials.
 - 1. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures where work is being or will be performed, provide translucent tarpaulins made of nylon reinforced laminated polyethylene to admit the maximum amount of daylight and reduce the need for temporary lighting
- F. Close openings through the floor or roof decks and other horizontal surfaces with substantial load-bearing metal framing or similar construction

1.17 INTERIOR ENCLOSURES

- A. Provide temporary dustproof partitions as indicated or required to separate work areas from Port Chester - Rye UFSD-occupied areas, to prevent penetration of dust and moisture into Port Chester - Rye UFSD-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:
- C. Paint surfaces exposed to view from Port Chester - Rye UFSD-occupied areas.
- D. Temporary Dustproof Partitions: HVAC Contractor shall provide dustproof partitions to separate work area from occupied sections of building unless indicated otherwise. Partitions shall be full height metal stud surfaced with minimum 1/2" Type X gypsum board with 2 layers of poly sheeting, overlapped and edges caulked.
 - 1. Where isolated work is being performed by a prime contractor the contractor performing the work shall be responsible for protecting the occupied areas from the work areas as directed by the Architect, including providing dust protection.
 - 2. Vertical Openings: Close openings of 25 sq. ft. (2.3sq. M) or less with plywood or similar materials.
 - 3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
 - 4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TEMPORARY FACILITIES AND CONTROLS

- 5. Where temporary wood or plywood enclosure exceeds 100sq. Ft. (9.2 sq. m) in area, use fire-retardant-treated material for framing and main sheathing.
- E. Electrical Contractor shall remove and reinstall any devices impacted by temporary partition installation. At conclusion of project electrician will again remove and reinstall these devices onto the permanent locations
- F. Refer to Section 01 7330 - Selective Removals for additional requirements.

1.18 SITE SAFETY AND SECURITY PROCEDURES- See Section 01 3553

- A. Security and Protection Facilities and Services shall be the responsibility of the HVAC Contractor and all costs shall be included in their bid.

1.19 WASTE REMOVAL

- A. See Section 01 7419 - Waste Management, for additional requirements.
- B. The Mechanical Contractor, shall provide containers, at grade, to accommodate performance of work during the construction period.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Contractors shall not utilize the Owner's bins or dumpsters.
- C. The Mechanical Contractor, shall broom clean the work area at the end of each work day.
 - 1. If the contractor fails to clean areas at the end of each work day the Owner's Representative shall perform the cleaning and back charge the contractor accordingly.
- D. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- E. Provide containers with lids. Remove trash from site periodically.
- F. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.
- G. The contractor shall be responsible for daily cleaning up of spillage and debris resulting from its operations and from those of its subcontractors; and shall be responsible for complete removal and disposition of hazardous and toxic waste materials.
 - 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.
- H. Burying or burning of waste materials on the site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. Provide rodent proof containers located on each floor level to encourage depositing of garbage and similar wastes by construction personnel.
- J. Site: The Contractor shall maintain Project site free of waste materials and debris.
- K. Installed Work: Keep installed work clean. The Contractor shall 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.
- L. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- M. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- N. The Contractor is responsible to provide dust protection for their construction-related activities for **King Street School**.
- O. If daily cleaning and dust protection is not provided the Contractor will be back charged for cleanup performed by employees of the Owner or a separate contractor retained by the Owner.

1.20 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection or when directed by the Owner's Representative .
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.
- D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION -

3.1 TEMPORARY UTILITY INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.
- B. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

3.2 STORAGE FACILITIES

- A. The Contractor and each subcontractor shall provide temporary storage shanties, tool houses and other facilities as required for his own use. Temporary structures shall be located at the fenced staging area, and shall be removed upon completion of the work or when directed.
- B. Materials delivered to the site shall be safely stored and adequately protected against loss or damage. Particular care shall be taken to protect and cover materials that are liable to be damaged by the elements.
- C. Due to limited on site storage space, each Contractor shall coordinate delivery of his materials with the Owner's Representative who will determine when large deliveries shall be made and shall be designate storage locations on site for delivered materials. All stored materials must be stored in locked, watertight trailers, paid for by applicable contractor.

3.3 SCAFFOLDING AND STAGING

- A. All scaffold, staging and appurtenances thereto shall comply in total to the requirements of Safety and Health Regulations for Construction Chapter XVII of OSHA, Part 1926 and all related amendments.

3.4 FIRE PREVENTION CONTROL

- A. All Contractors shall comply with the safety provisions of the National Fire Protection Association's "National Fire Codes" pertaining to the work and, particularly, in connection with any cutting or welding performed as part of the work

3.5 TEMPORARY FIRE PROTECTION

- A. Refer to Section 01 3553 - Site Safety and Security Procedures for additional requirements.
- B. Each Contractor shall take all possible precautions for the prevention of fires. Where flame cutting torches, blow torches, or welding tools are required to be used within the building, their use shall be as approved by the Owner's Representative at the site. When welding tools or torches of any type are in use, have available in the immediate vicinity of the work a fire extinguisher of the dry chemical 20 lbs. Type. The fire extinguisher(s) shall be provided and maintained by the Contractor doing such work.
- C. Fuel for cutting and heating torches shall be gas only and shall be contained in Underwriters laboratory approved containers.
- D. Storage of gas shall be in locations as approved by the Owner's Representative and subject to Fire Department regulations and requirements.
- E. No volatile liquids shall be used for cleaning agents or as fuels for motorized equipment or tools within a building except with the express approval of the Owner's Representative and in accordance with local

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TEMPORARY FACILITIES AND CONTROLS

codes. On-site bulk storage of volatile liquids shall be outside the buildings at locations directed by the Owner, who shall determine the extent of volatile liquid allowed within the building at any given time.

- F. The Contractor shall comply with the following requirements relating to compressed gas:
1. Where compressed gas of any type is used for any purpose at the site, it shall be contained in cylinders complying with ICC regulations. Gases of different types shall not be stored together except when in use and when such proximity is required.
 2. Store all gas cylinders shall be in sheds constructed of noncombustible materials. Sheds shall be well ventilated and without electric lights or fixtures and shall be located as far from other buildings as is practicable. All gas cylinders not in actual use, or in proposed immediate use, shall be removed from the building under construction or reconstruction. Empty gas cylinders shall be removed prior to bringing in a replacement cylinder. Cylinders shall at all times be supported and braced in an upright position. When not in use, the protective cap shall be screwed over the valve.
 3. All persons required to handle gas cylinders or to act as temporary firemen (Fire Watchers) shall be able to read, write and understand the English language; they shall also be required by the Contractor to read Part 3 of Pamphlet P-1 "Safe Handling of Compressed Gases" published by the Compressed Gas Association, 500 Fifth Avenue, New York, NY 10036.
 4. Where local ordinances are in effect regarding gas cylinders, (their use, appurtenances and handling), such ordinances shall supplement the requirements of this paragraph. All personnel engaged in fire watch shall be certified by the Local Fire Department having jurisdiction.
 5. LP-Gas Heating will not be permitted in enclosed areas below grade.
 6. Any cylinder not having the proper ICC markings or reinspecting marking, or any cylinder with a leak shall be isolated immediately away from any building and the supplier shall be immediately notified; such other precautions as may be required to prevent damage or injury shall also be taken by the Contractor.
- G. The Contractor shall comply with the following requirements relating to welding and cutting:
1. All cutting and/or welding (electric or gas) must be done only by skilled, certified and licensed personnel.
 2. During welding or cutting operations, a contractors man shall act as a fire watcher. The fire watcher shall have proper eye protection and suitable fire fighting equipment including fire extinguisher (bearing current inspection Certificate), protective gloves and any other equipment deemed necessary.
 3. Welding or cutting shall not be done near flammable liquid, vapors or tanks containing such material.
 4. Where cutting or welding is done above or adjacent to (within two feet) combustible material or persons, a shield of incombustible material shall be installed to protect against fire or injury to sparks or hot metal.
 5. Tanks supplying gases for welding or cutting are to be placed in an upright position securely fastened, and close as practical to the operation. Tanks, actives or spares, shall be protected from excess heat and shall not be placed in stairways, hallways or exits. When not in use, protective valve cap shall be screwed on the cylinder.
 6. Adequate fire extinguishing equipment shall be maintained at all welding or cutting operations.
 7. The Contractor shall secure all required inspections.
 8. All equipment, hoses, gauges, pressure reducing valves, torches, etc., shall be maintained in good working order and all defective equipment shall immediately be removed from the job.
 9. No person shall be permitted to do any welding or cutting until his name, address and current license number have been submitted in writing to the Owner's Representative.
 10. Contractors for work outside the building shall commence operations promptly on award of Contract, and shall be responsible for same being kept clear of materials and debris in connection with their own work and that of other Contractors. If a Contractor for outside work allows other

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TEMPORARY FACILITIES AND CONTROLS

contractors to deposit material and debris over its lines, the Contractor shall be responsible for all delay and extra cost occasioned thereby.

11. The Contractor shall provide Fire Extinguishers as follows: Provide type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical fires or grease-oil-flammable liquid fires. In other locations provide either type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.
12. All required exits, fire alarm, security, automatic temperature control, PA, sprinkler and similar systems shall be maintained and operable throughout the entire construction contract.
 - a. Contractor(s) will be back-charged for all fines imposed for false alarms or service calls.
13. Free access to fire hydrants and standpipe connections shall be maintained at all times during construction operations. Portable fire extinguishers shall be provided by the Construction Contractor and made conveniently available throughout the construction site. Contractor(s) shall notify their employees of the location of the nearest fire alarm box at all locations where work is in progress.

3.6 ENVIRONMENTAL PROTECTION:

- A. The Contractor shall provide protection, operate temporary facilities, and conduct construction in ways and by methods that 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 Project site.

3.7 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 in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour 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.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TEMPORARY FACILITIES AND CONTROLS

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.
- F. Maintenance materials, extra materials.

1.3 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary of Contracts.
- B. Section 01 2500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- C. Section 00 4401 - Qualification of Bidders

1.4 REFERENCE STANDARDS

1.5 DEFINITIONS

- A. Products: Items purchased 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.
- B. 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.
- C. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
- D. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, 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.
- E. Substitutions: Changes in products, materials, equipment, and methods of construction from those required or specified by the Contract Documents and proposed by Contractor.
- F. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," 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 other named manufacturers which shall be submitted as substitutions.
- G. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

1.6 SUBMITTALS

- A. Refer to Section 01 3000 - Administrative Requirements for additional requirements

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PRODUCT REQUIREMENTS

- B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 10 days after date of Notice of Award.
 - 2. For products specified only by reference standards, list applicable reference standards.
- C. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
- B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Port Chester - Rye UFSD, or otherwise indicated as to remain the property of the Port Chester - Rye UFSD, become the property of the Contractor(s); remove from site.

2.2 NEW PRODUCTS

- A. Provide new products for all unless otherwise specifically required or permitted by the Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
 - 1. Made outside the United States, its territories, Canada, or Mexico.
 - 2. Made using or containing CFC's or HCFC's.
 - 3. Made of wood from newly cut old growth timber.
 - 4. Containing lead, cadmium, or asbestos.
- C. Where other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 6116.

2.3 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named. Submit on form attached.
- C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Administrative Requirements". All products, other than "Basis of Design", shall be submitted as a substitution. Show compliance with requirements. Submit on form attached.
- D. Refer to Section 01 2500 - Substitution Procedures.

2.4 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
 - 1. Deliver to Construction Manager; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 SUBSTITUTION SUBMITTAL PROCEDURE AFTER BIDDING PHASE

- A. Refer to Section 01 2500 - Substitution Procedures.

3.2 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.3 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 7419.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Provide off-site storage and protection when site does not permit on-site storage or protection.
- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Do not store products directly on the ground.
- J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- L. Prevent contact with material that may cause corrosion, discoloration, or staining.
- M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PRODUCT REQUIREMENTS

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

SECTION 01 6116
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Requirements for Indoor-Emissions-Restricted products.
- B. Requirements for VOC-Content-Restricted products.
- C. VOC restrictions for product categories listed below under "DEFINITIONS."
- D. All products of each category that are installed in the project must comply; Port Chester - Rye UFSD's project goals do not allow for partial compliance.

1.3 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittal procedures.
- B. Section 01 4000 - Quality Requirements: Procedures for testing and certifications.
- C. Section 01 6000 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.
- D. Section 07 9200 - Joint Sealants: Emissions-compliant sealants.
- E. Section 09 9123 - Painting.

1.4 DEFINITIONS

- A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings applied on site.
 - 2. Interior adhesives and sealants applied on site, including flooring adhesives.
 - 3. Flooring.
 - 4. Products making up wall and ceiling assemblies.
 - 5. Thermal and acoustical insulation.
 - 6. Free-standing furniture.
- B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings applied on site.
 - 2. Interior adhesives and sealants applied on site, including flooring adhesives.
 - 3. Wet-applied roofing and waterproofing.
- C. VOC-Restricted Products: All products of each of the following categories when installed or applied on-site in the building interior:
 - 1. Interior of Building: Anywhere inside the exterior weather barrier.
 - 2. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.
 - 3. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.
- D. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
 - 1. Concrete.
 - 2. Clay brick.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT

VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

3. Metals that are plated, anodized, or powder-coated.
4. Glass.
5. Ceramics.
6. Solid wood flooring that is unfinished and untreated.

1.5 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).
- C. GreenSeal GS-36 - Adhesives for Commercial Use; 2013.
- D. SCAQMD 1113 - Architectural Coatings; 1977 (Amended 2016).
- E. SCAQMD 1168 - Adhesive and Sealant Applications; 1989 (Amended 2017).

1.6 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Evidence of Compliance: Submit for each different product in each applicable category.
- C. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.7 QUALITY ASSURANCE

- A. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Report of laboratory testing performed in accordance with requirements.
- B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.
- B. VOC-Content-Restricted Products: VOC content not greater than required by the following:
 1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
 2. Aerosol Adhesives: GreenSeal GS-36.
 3. Joint Sealants: SCAQMD 1168 Rule.
 4. Paints and Coatings: Each color; most stringent of the following:
 - a. 40 CFR 59, Subpart D.
 - b. SCAQMD 1113 Rule.
 - c. CARB (SCM).

PART 3 EXECUTION

3.1 FIELD QUALITY CONTROL

- A. Port Chester - Rye UFSD reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Port Chester - Rye UFSD.
- B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

**SECTION 01 7000
EXECUTION**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Inspections prior to start of work.
- B. Examination, preparation, and general installation procedures.
- C. Requirements for alterations work, including selective removals and including asbestos/lead abatement .
- D. Site scoping.
- E. Construction layout.
- F. Surveying
- G. General installation of products.
- H. Progress cleaning.
- I. Protection of installed construction.
- J. Correction of the Work.
- K. Pre-installation meetings.
- L. Removals and dust control.
- M. Cutting and patching.
- N. Surveying for laying out the work.
- O. Dust control
- P. Cleaning and protection.
- Q. Final Cleaning.
- R. Starting of systems and equipment.
- S. Demonstration and instruction of Port Chester - Rye UFSD personnel.
- T. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.3 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- C. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.
- D. Section 01 5100 - Temporary Utilities: Temporary heating, cooling, and ventilating facilities.
- E. Section 01 3553 - Security Procedures
- F. Section 01 5713 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.
- G. Section 01 7419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.
- H. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

- I. Section 01 7900 - Demonstration and Training: Demonstration of products and systems to be commissioned and where indicated in specific specification sections
- J. Section 07 8400 - Firestopping.
- K. Individual Product Specification Sections:
 - 1. Advance notification to other sections of openings required in work of those sections.
 - 2. Limitations on cutting structural members.

1.4 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Call ProTek (718) 472-2304 or info@ProTekLocating.com, before beginning any excavation at least two (2) working days prior to the start of construction, and locate and identify all underground utilities etc.
- C. Cutting and Patching: Refer to Section 01 7310 - Cutting and Patching for requirements.
- D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.6 QUALIFICATIONS

- A. Refer to Section 00 4401 - Qualification of Bidders
- B. Refer to individual sections for additional requirements.

1.7 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
 - 2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Port Chester - Rye UFSD.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building at any time of day; excessively noisy includes jackhammers.
- D. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- E. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.8 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as

closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Port Chester - Rye UFSD occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Port Chester - Rye UFSD's activities.
- H. General: Contractor includes general coordination of the entire work of the project, including preparation of general coordination drawings, diagrams and schedules and control of site utilization from the beginning of construction activity through project closeout and warranty periods .
- I. Alterations: Where applicable, requirements of the contract documents apply to alteration work in the same manner as to new construction. Refer to drawings for specific requirements of alteration work. Primarily, alterations can be described as normal architectural, mechanical and electrical alterations. Contractors shall review phasing and scheduling of the work to understand that certain areas of work must be completed and occupied prior to start of other work. This is essential to the Owner in their ability to maintain the educational programs during construction.

1.9 CODES, PERMITS, FEES, ETC. Refer to Section 01 4100 Regulatory Requirements

1.10 MANDATORY OSHA CONSTRUCTION SAFETY AND HEALTH TRAINING

- A. Effective July 18, 2008 - Pursuant to NYS Labor Law §220-h - On all public work projects of at least \$250,000 all laborers, workers and mechanics working on the site are required to be certified as having successfully completed an OSHA construction safety and health course of at least 10 hours prior to performing any work on the project.

PART 2 PRODUCTS

2.1 MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 2500 - Substitution Procedures.
- D. Barriers shall be constructed of sturdy lumber having a minimum size of 2 x 4.
 - 1. Signs shall be made of sturdy plywood of 1/2" minimum thickness and shall be made to legible at a distance of 50 feet.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Prior to start of construction take photographs, video's or similar documentation as evidence of existing project conditions as follows:
 - 1. Interior views: Each room and areas of outside work area which could be construed as caused by the contractor.
 - 2. Exterior views: Each area of work and areas of outside work area which could be construed as caused by the contractor.
- B. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- C. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

- D. Examine and verify specific conditions described in individual specification sections.
- E. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- F. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- G. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect or Owner's Representative four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants to Architect or Owner's Representative, participants and those affected by decisions made.

3.4 REMOVAL AND DUST CONTROL

- A. The following procedures shall be followed when removals will create dust:
 - 1. Interior:
 - a. Floor surfaces shall be provided with a minimum of one layer of six mil plastic.
 - b. All air vents in the room shall be closed, shut off and sealed.
 - c. Access to all rooms undergoing removals shall be restricted to prevent unauthorized entry.
 - d. All moveable objects will be remove/relocated away from the vicinity of the removals by the Owner. Floors and fixed furniture, cases etc. shall cover with a six mil plastic by the GC Contract #1.
 - e. Owner shall relocate/reinstall objects to their original location.
 - f. All corridors from renovated areas to exitways, used by Contractors, shall be mopped and left clean daily.
 - 2. Contractor shall provide labor for daily cleanup on the interior and the exterior of the building as required or directed by the Owner's Representative. Any visible debris shall be removed prior to occupancy the following day.
 - a. Only wet cleaning methods and/or HEPA vacuuming shall be used to clean.
 - 3. All debris shall be disposed of properly in accordance with Federal, State and Local Regulations. Refer to Section 01 5000 - Temporary Facilities and Controls and asbestos and lead abatement sections for containers required.
 - 4. Do not leave any openings unprotected at end of work day or during periods of excessive cold weather or precipitation.
 - 5. At completion of each work area HEPA vacuumed and wet wiped.

3.5 GENERAL INSTALLATION REQUIREMENTS

- A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.
- B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- D. Saw cut all concrete slabs and asphalt paving.
- E. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- F. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- G. Make neat transitions between different surfaces, maintaining texture and appearance.

3.6 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Owner's Representative before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 - 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 - 2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
- D. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 3. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- E. Services (Including but not limited to HVAC, Plumbing, and Electrical): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 - 3. 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.
 - a. Identify new equipment installed, but not in service, with appropriate signage or other forms of identification, indicating "Not in Service".
 - b. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - c. Provide temporary connections as required to maintain existing systems in service.

- d. Perform all switchovers, shutdowns, etc after hours, weekends, holidays or times when the building is not occupied. All switchover scheduling shall be approved by the Owner.
- 4. Verify that abandoned services serve only abandoned facilities.
- 5. Remove conduits, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- F. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.
- G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
 - 1. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 - 2. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Fuller and D'Angelo Architects and Planners review and request instructions.
- H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- J. Do not begin new construction in alterations areas before demolition is complete.
- K. Comply with all other applicable requirements of this section.

3.7 CUTTING AND PATCHING

- A. Refer to Section 01 7310 - Cutting and Patching

3.8 SPECIAL REQUIREMENTS

- A. All existing systems are required and shall remain operational during the performance of the work.
- B. Notwithstanding anything contained in the Contract Documents to the contrary, the Contractor(s) shall not be permitted to disrupt operation of any building system or any of the services without Owner's Representative's prior written consent, which shall not be unreasonably withheld. Any request to perform such work shall be in writing, received by Owner's Representative no less than 5 working days prior to the commencement of the request for disruption, and shall detail:
 - 1. The exact nature and duration of such interruption;
 - 2. The area of the Building affected, and;
 - 3. Any impact upon the Construction Schedule caused by such proposed temporary disruption. All Work shall be performed during the hours and on the days set forth in the Specifications.

3.9 MISCELLANEOUS PROVISIONS:

- A. Except as otherwise indicated comply with applicable requirements of Division 22, 23, and 26 sections for mechanical provisions within units of general Divisions 3-9, work. Except as otherwise indicated, comply with applicable requirements of Division 22-26 sections for electrical provisions within units of general Divisions 3-9 work.
- B. Service Connections: Refer to Division-26 sections for the characteristics of the mechanical and electrical services to be connected to units of general work. Provide units manufactured or fabricated for proper connection to and utilization of available services, as indicated. Except as otherwise indicated, final connection of mechanical services to general work is defined as being mechanical work, and final connection of electrical services to general work is defined as electrical work.

3.10 FIRE PREVENTION AND CONTROL Refer to Section 01 3553

3.11 UNDERGROUND UTILITIES

- A. Broken utilities from work are the responsibility of each Contractor. Use extreme caution when uncovering utilities. If a utility is broken while uncovering because the utility was not in the exact location identified, the cost of repair is the responsibility of the Contractor.

3.12 WATCHMAN

- A. The Owner will not provide watchman. The Contractor will be held responsible for loss or injury to persons or property or work where his work is involved and shall provide such watchman and take such precautionary measures as he may deem necessary to protect his own interests.

3.13 VERIFICATION OF CONDITIONS

- A. All openings, measurements, door frames, existing conditions and other similar items or conditions shall be field measured prior to submission of any shop drawings or manufacturers literature for approval.
 - 1. The Contractor shall investigate each space into and through which equipment must be moved. Equipment shall be shipped from manufacturer in sections, of size suitable for moving through restricted spaces. Where sectional fabrication and or delivery cannot be achieved, openings, enlargements etc shall be provided by each contractor whose equipment requires access, at no additional cost to the Owner.

3.14 SALVAGEABLE MATERIALS:

- A. The Owner will prepare a list of salvageable items it wishes to retain. All salvageable items shall be delivered by the Contractor to a storage area designated by the Owner's Representative on site. All demolished equipment etc., except those items specifically requested by the Owner's Representative shall become the Contractor's property and shall be removed from the premises.

3.15 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
- E. The Contractor is responsible for their own daily debris removal into containers provided by the Contractor. Working areas are to be broom swept on a daily basis by the Contractor.
- F. The Contractor is responsible to provide dust protection for their construction-related activities.
- G. If daily cleaning and dust protection is not provided the Contractor will be back charged for cleanup performed by employees of the Owner or a separate contractor retained by the Owner.

3.16 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

- F. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.
 - 1. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.17 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Owner's Representative seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.18 DEMONSTRATION AND INSTRUCTION

- A. See Section 01 7900 - Demonstration and Training.

3.19 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.
- B. Testing, balancing and Adjusting HVAC. See Division 23.

3.20 FINAL CLEANING

- A. Final cleaning shall be the responsibility of the Contractor and all costs for final cleaning shall be included in the Base Bid. Final cleaning responsibility shall be limited to all new additions and areas where renovations occur.
- B. Execute final cleaning prior to final project assessment.
 - 1. Clean areas to be occupied by Port Chester - Rye UFSD prior to final completion before Port Chester - Rye UFSD occupancy.
- C. Use cleaning materials that are nonhazardous.
- D. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- E. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- F. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- G. Replace filters of operating equipment.
- H. Clean debris from roofs, scuppers, overflow drains, area drains, and drainage systems.
- I. Clean site; sweep paved areas, rake clean landscaped surfaces.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
EXECUTION

- J. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.
- K. Areas being altered or renovated by each prime only for their work shall be cleaned by the Contractor working in the area. Example: Intercom system or fire alarm system being replaced in classrooms or areas not being altered; unit ventilators, convectors, controls, etc. being replaced altered, etc., plumbing fixtures installed in classrooms not being altered.
- L. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- M. 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.
- N. Cleaning Agents: Use cleaning materials and agents recommended by the 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.
- O. Remove tools, construction equipment, machinery, and surplus material from Project site.
- P. Remove snow and ice to provide safe access to building.
- Q. 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.
- R. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- S. Sweep concrete floors broom clean in unoccupied spaces.
- T. Wax all resilient flooring.
- U. Remove labels that are not permanent.
- V. Touch up and otherwise repair and restore marred, exposed finishes and surfaces evidence of repair or restoration. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show
- W. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
- X. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- Y. Replace parts subject to unusual operating conditions.
- Z. Clean ducts, blowers, and coils if units were operated without filters during construction.
- AA. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
- AB. Leave Project clean and ready for occupancy.
- AC. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.21 CLOSEOUT PROCEDURES Refer to Section 01 7800
END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
EXECUTION

**SECTION 01 7310
CUTTING AND PATCHING**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. This Section includes procedural requirements for cutting and patching.
 - 1. Refer to other Sections for specific requirements and limitations applicable to cutting and patching.
 - 2. Requirements of this Section apply to all contracts. Refer to various sections and divisions of these specifications for other requirements and limitations applicable to cutting and patching.
 - 3. Contractor acknowledges that the work involves renovation and alteration of existing improvements and, therefore, cutting and patching of the work is essential for the Project to be successfully completed. The Contractor shall perform any cutting, altering, patching and fitting of the work necessary for the work and the existing improvements to be fully integrated and to present the visual appearance of an entire, completed, and unified project. In performing any work which requires cutting, fixing, or patching, Contractor shall use its best efforts to protect and preserve the visual appearance and aesthetics of the project to the reasonable satisfaction of both the Owner and the Architect.
 - 4. The Contractor shall do all cutting, patching, repairing as necessary for their work. In all cases, the cutting, patching, repairing and finishing shall be performed by mechanics skilled in the particular trade required at no additional cost to the Owner.

1.3 RELATED SECTIONS

- A. Division 1 Section "Selective Removals" for removals of selected portions of the building for alterations.
- B. Division 7 Section "Through-Penetration Firestop Systems" for patching fire-rated construction.
- C. Divisions 2 through 14 Sections for additional requirements and limitations applicable to cutting and patching individual parts of the Work.
- D. Requirements in this Section apply to the contractor and installations. Refer to all Division Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.4 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.5 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching; show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.

5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.6 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch the following 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.
 1. Primary operational systems and equipment.
 - a. Air or smoke barriers.
 - b. Fire-protection systems.
 - c. Control systems.
 - d. Communication systems.
 - e. Conveying systems.
 - f. Electrical wiring systems.
 - g. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related 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.
 1. Water, moisture, or vapor barriers.
 - a. Membranes and flashings.
 - b. Exterior curtain-wall construction.
 - c. Equipment supports.
 - d. Piping, ductwork, vessels, and equipment.
 - e. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces 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.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.7 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.
- B. Prior to cutting and patching verify with Owner all existing warranties in effect.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.

- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
- B. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing 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.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
- B. Cut existing 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. A sufficient time in advance of the construction of floors etc. The Contractor shall be responsible for properly locating and providing in place all sleeves, inserts and forms required for work.
- C. Cutting: Cut existing 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 as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete/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 Division 2 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.
- D. All cutting of holes in existing walls, existing floors, existing roofs, existing ceilings, etc. for the removal of any existing work (including, but not limited to ducts, fans, fixtures, motors, equipment, drains, wiring, conduit, etc.) or for the installation of any new work shall be done in a neat manner by the Contractor. Debris caused by such cutting or removals will be removed by the Contractor.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CUTTING AND PATCHING

- E. Where sleeves, inserts or openings are required in existing walls, floors, roofs, vaults and pavements of existing buildings or structures, all necessary cutting, furnishing and installing of sleeves, inserts, lintels, etc., shall be done by the Contractor.
- F. Contractor(s) are hereby notified that the existing walls in the existing building are concrete masonry unit. All openings in existing walls shall be provided with steel lintels, minimum 4" bearing each side and 8" wide x wall thickness concrete masonry units filled solid on each side of the opening for proper support.
- G. Adequate blocking, fastening, etc., required to support equipment, casework, etc., from existing terra cotta walls shall be included as required to complete work.
- H. All surfaces where existing items are removed from existing walls, floors, ceilings, roofs, vaults, etc. shall be patched to match existing surfaces.
 - 1. Proceed with patching after construction operations requiring cutting are complete.
- I. Removals of selected portions of the building for alterations is included in Section "Selective Removals".
- J. 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 possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate 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 eliminate evidence of patching and refinishing.
 - 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 existing 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, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Ceilings: Patch, repair, or rehang existing 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.

3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01 7330
SELECTIVE REMOVALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION OF WORK:

- A. Location of selective removal work is indicated on drawings only in a general manner and it is not all inclusive in the overall scope of removal work. The Contractor shall provide all inclusive removals required for new and renovated work.
 - 1. The Contractor will be responsible for all related removals and re-work of the existing systems, as required for new work.

1.3 SUMMARY

- A. This Section includes but is not limited to the following:
 - 1. Refer to Divisions 22, 23, and 26 for additional selective removals.
 - 2. Cutting of new openings where indicated and /or required to accommodate new work.
 - 3. Cutting, and removals required for installation of new HVAC, plumbing, and electrical.
 - 4. Relocation of pipes, conduits, ducts, and other mechanical and electrical work.
 - 5. Patching of all areas of cutting and removals.
 - 6. Firestopping as specified in Section 07 8400 - Firestopping.
 - 7. Cutting and patching as Specified in Section 01 7310 - Cutting and Patching.

1.4 RELATED SECTIONS:

- A. Division 1 Section "Summary of Contracts" for use of the premises and phasing requirements.
- B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- C. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.
- D. Section 01 5000 - Temporary Facilities and Controls for temporary construction and environmental-protection measures for selective removals operations.
- E. Section 01 7310 - Cutting and Patching for cutting and patching procedures for selective removals operations.
- F. Section 07 8400 - Firestopping.
- G. Individual Product Specification Sections:
 - 1. Advance notification to other sections of openings required in work of those sections.
 - 2. Limitations on cutting structural members.
- H. Division 22, 23, and 26 Sections for demolishing, cutting, patching, or relocating mechanical items.

1.5 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- C. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
 - 1. Protect construction indicated to remain against damage and soiling during selective removals.

- D. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.
- E. 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 during selective removals remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

1.6 SUBMITTALS

- A. Refer to Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
- C. Schedule of selective removals Activities: Indicate the following:
 - 1. Detailed sequence of selective removals and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Locations of temporary partitions and means of egress.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Pre demolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective removals operations. Submit before Work begins.
- E. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.7 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective removals. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.
- C. Pre demolition Conference: Conduct conference at Project site to comply with requirements in Section 01 3000 - Administrative Requirements. Review methods and procedures related to selective removals including, but not limited to, the following:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective removals schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.

1.8 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective removals area. Conduct selective removals so Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
 - 2. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
- B. Owner assumes no responsibility for condition of areas to be selectively demolished.
 - 1. Before selective removals, Owner will remove the following items:
 - a. All loose furniture, desks, chairs, computers etc. for renovated areas.

- b. GC General Contractor Contract #1 shall cover all floors, fixed furniture, book cases, doors /opening into adjacent rooms opening into the work areas.
- C. Hazardous Materials: Hazardous materials are present in building to be selectively demolished. A report (See Appendix included in the project manual) on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - 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.
- D. Storage or sale of removed items or materials on-site will not be permitted.
 - 1. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective removals operations.
 - a. Maintain fire-protection facilities in service during selective removals operations.

1.9 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective removals, by methods and with materials so as not to void existing warranties.
 - 1. Existing roofing is under warranty. Remove material by sub contractors authorized and approved by manufacture.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 - 1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.
 - 3. Comply with material and installation requirements specified in individual Specification Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective removals required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. 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.

3.2 UTILITY SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective removals operations.
 - 1. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
 - a. Provide at least 72 hours' notice to Owner if shutdown of service is required during changeover.
 - 2. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
 - a. Arrange to shut off indicated utilities with utility companies.

- b. If utility services are required to be removed, relocated, or abandoned, before proceeding with selective removals provide temporary utilities that bypass area of selective removals and that maintain continuity of service to other parts of building.
 - a) Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
- 3. Utility Requirements: Refer to Division 22, 23, and 26 Sections for shutting off, disconnecting, removing, and sealing or capping utilities. Do not start selective removals work until utility disconnecting and sealing have been completed and verified in writing.

3.3 PREPARATION

- A. Dangerous Materials: Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammable, or other dangerous materials before proceeding with selective removals operations.
- B. Site Access and Temporary Controls: Conduct selective removals and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- D. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
- E. Protect existing site improvements, appurtenances, and landscaping to remain.
- F. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
- G. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- H. Provide protection to ensure safe passage of people around selective removals area and to and from occupied portions of building.
- I. Provide temporary weather protection, during interval between selective removals of existing construction on exterior surfaces and new construction, INCLUDING BUT NOT LIMITED TO REMOVAL OF EXISTING ROOFING, REMOVAL OF EXISTING FACE BRICK AND REMOVAL OF EXISTING MASONRY CAVITY WALLS, to prevent water leakage and damage to structure and interior areas.
- J. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective removals operations.
- K. Cover and protect furniture, furnishings, and equipment that have not been removed.
- L. Temporary Enclosures: Provide temporary enclosures for protection of existing building and construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
- M. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
 - 1. Temporary Shoring: Provide and maintain [interior] [and] [exterior] shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - a. Strengthen or add new supports when required during progress of selective removals.

- N. The following procedures shall be followed when ceilings, partitions, roofing, face brick and masonry cavity walls are removed **and do not contain asbestos**:
1. Work must be in compliance with OSHA Construction Standard (29 CFR 1926.62)..
 2. The Contractor shall disposed of all debris properly in accordance with Federal, State and Local Regulations. Refer to Section 01 5000 - Temporary Facilities and Controls for containers required.

3.4 POLLUTION CONTROLS

- A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.
- B. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- C. Wet mop floors to eliminate tackable dirt and wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.
- D. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- E. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective removals operations. Return adjacent areas to condition existing before selective removals operations began.

3.5 SELECTIVE REMOVALS

- 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. 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.
 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 3. 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.
 4. Maintain adequate ventilation when using cutting torches.
 5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 6. Locate selective removals equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 7. Dispose of demolished items and materials promptly.
 8. Return elements of construction and surfaces that are to remain to condition existing before selective removals operations began.
 9. Existing Facilities: Comply with Owner's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective removals operations.
 10. Removed and Salvaged Items: Comply with the following:
 - a. Clean salvaged items.
 - b. Store items in a secure area until delivery to Owner's representative .
 - c. Transport items to Owner's storage area on-site in area designated by Owner.
 - d. Protect items from damage during transport and storage.
 11. Removed and Reinstalled Items: Comply with the following:

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SELECTIVE REMOVALS

- a. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 - a) 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.
- 12. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective removals. When permitted by Owner, items may be removed to a suitable, protected storage location during selective removals, cleaned, and reinstalled in their original locations after selective removals operations are complete.
- 13. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.
- 14. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.6 PATCHING AND REPAIRS Refer to Section 01 7310

3.7 SPECIAL REQUIREMENTS

- A. All existing systems are required and shall remain operational during the performance of the work.
- B. Notwithstanding anything contained in the Contract Documents to the contrary, the contractor(s) shall not be permitted to disrupt operation of any building system or any of the services without Owner's prior written consent, which shall not be unreasonably withheld. Any request to perform such work shall be in writing, received by Owner and Architect no less than 5 working days prior to the commencement of the request for disruption, and shall detail:
 - 1. The exact nature and duration of such interruption;
 - 2. The area of the Building affected, and;
 - 3. Any impact upon the Construction Schedule caused by such proposed temporary disruption. All Work shall be performed during the hours and on the days set forth in the Specifications.
 - 4. All required shutdowns shall be performed after hours or weekend.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.9 CLEANING

- A. Sweep the building broom clean on completion of selective removals operation.

END OF SECTION

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 WASTE MANAGEMENT REQUIREMENTS

- A. Port Chester - Rye UFSD requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Each Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
- E. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.3 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
 - 1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
 - 2. Submit Report on a form acceptable to Port Chester - Rye UFSD.
 - 3. Landfill Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
 - c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - 4. Incinerator Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project delivered to incinerators.
 - c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - 5. Recycled and Salvaged Materials: Include the following information for each:
 - a. Identification of material, including those retrieved by installer for use on other projects.
 - b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
 - c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
 - 6. Material Reused on Project: Include the following information for each:
 - a. Identification of material and how it was used in the project.
 - b. Amount, in tons or cubic yards (cubic meters).
 - c. Include weight tickets as evidence of quantity.
 - 7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.1 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.
- C. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.
- D. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Port Chester - Rye UFSD, and Fuller and D'Angelo Architects and Planners.
- C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- D. Meetings: Discuss trash/waste management goals and issues at project meetings.
 - 1. Prebid meeting.
 - 2. Preconstruction meeting.
 - 3. Regular job-site meetings.
- E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 - 1. Provide containers as required.
 - 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 - 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

**SECTION 01 7800
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Substantial Completion.
- B. Final Completion.
- C. Project record documents.
- D. Operation and maintenance data.
- E. Warranties

1.3 RELATED REQUIREMENTS

- A. Section 00 7200 - General Conditions: Warranty and Correction of work.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures.
- C. Section 01 7000 - Execution: Progress and Final cleaning.
- D. Section 01 7900 - Demonstration and Training.
- E. Section 01 9113 - General Commissioning Requirements.
- F. Individual Product Sections: Specific requirements for operation and maintenance data.
- G. Individual Product Sections: Warranties required for specific products or Work.

1.4 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion:
 - 1. Prepare a list of items to be completed and corrected, the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner's Representative and Architect of pending insurance changeover requirements.
 - 3. Obtain and submit releases permitting Owner's Representative and Architect unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
- B. Prior to issuance of the Certificate of Substantial Completion, submit, in writing, a request to the Owner's Representative and Architect to perform site inspection for the purpose of preparing a "punch list".
- C. On receipt of request the Owner's Representative and Architect will schedule and prepare a punch list.
- D. Certificate of Substantial Completion will be issued **only after completion of all punch list items, including photos of corrected items**, or Owner's Representative will notify the Contractor of items, either punch list or additional items identified by Architect, **that must be completed or corrected before a certificate will be issued**. After completion of **all punch list items** submit the following:
 - 1. Application for Payment showing 100 percent completion for portion of the Work claimed as substantially completed.
 - 2. Manufacturer's Warranties/guarantees.
 - 3. Contractor's Warranty Two (2) years minimum and extended warranties.
 - 4. Maintenance agreements, if any.
 - 5. Manifest for disposal of Hazardous Material.
 - 6. Manifest for disposal of material.
 - 7. Test/adjust/balance reports and records.
 - 8. Maintenance Manuals and Instructions Manuals

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

9. Signed Receipt by Owner's Representative of spare parts and attic stock, if any.
 10. Start-up performance reports.
 11. Changeover information related to Owner's occupancy, use, and maintenance.
 12. Video Training Sessions.
 13. Advice on shifting insurance coverage.
 14. All third party inspections including concrete, steel, rebar, manufactures field inspection, etc.
 15. List of incomplete Work, recognized as exceptions to Owner's Representative and Architect's "punch list".
 16. Removal of temporary facilities and services.
 17. Removal of surplus materials, rubbish and similar elements.
 18. As Built Drawings.
 19. Project Record Documents.
 20. Fully executed Certificate of Substantial Completion. (AIA G704 by Architect).
 21. Asbestos manifest, if any.
 22. Underwriters Certificate or authorized third party Certificate.
 23. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- E. Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
1. If necessary re-inspection will be repeated and the contractor shall pay for all additional inspections.
 2. Results of completed inspection will form the basis of requirements for Final Completion.
 3. The maximum payment for Substantial Completion shall 100% of contract amount, **less 5% retainage**. The retainage will be paid when all Final Completion items are submitted and approved.

1.5 FINAL COMPLETION AND PAYMENT

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owner's Representative and Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner's Representative and Architect will not process a final Certificate for Payment until after the inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - a. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - b. At the completion of each "punch list" item the Contractor shall photograph each item and submit them to Owner's Representative.
- B. Following Final Inspection and acceptance of work submit the following: (As applicable to Contractor)
1. Submit a final Application for Payment according to Division 1 Section 01 2000 - Price and Payment Procedures.
 2. Architect's punch list certifying all punch list items have been completed, with photograph of each item, signed off by the Owner's Representative and Contractor.
 3. Update final statement, accounting for final changes to the Contract Sum.
 4. Consent of Surety to Final Payment, AIA Document G707
 5. Final Liquidated Damages settlement statement.
 6. Contractor's Affidavit of Release of Liens (AIA G706A).
 7. Contractors Affidavit of Payment of Debts and Claims (AIA G706)
 8. Contractor's Certification of Payment of Prevailing Wage Rates.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

9. Contractor's Certification of Compliance that products comply with VOC requirements stated in Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
10. Contractor's Certified Statement certifying that no asbestos containing material was incorporated into the project.
11. DOL Final Completion Form. (PW 200).

1.6 SUBMITTALS

- A. Each Contractor shall submit all documentation identified in this section within thirty (30) working days from the time the Contractor submits the list of items to be corrected, in addition to other rights of the Owner set forth elsewhere in the Contract Documents, to include but not limited to withholding of final payment. If the documentation has not been submitted within Thirty (30) day period, the Owner's Representative will obtain such through whatever means necessary. The Contractor shall solely be responsible for all expenses incurred by the Owner, provided the Owner has advised the Contractor of this action seven (7) days prior to the culmination date by written notice.
- B. Project Record Documents: Submit documents to Architect with claim for final Application for Payment. Refer to Section 01 1000 Summary of Work for addition information.
- C. Operation and Maintenance Data:
 1. Refer to individual sections for additional requirements.
 2. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Construction Manager and Architect will review draft and return one copy with comments.
 3. For equipment, or component parts of equipment put into service during construction and operated by Port Chester - Rye UFSD, submit completed documents within ten days after acceptance.
 4. Submit one copy of completed documents 10 days prior to final inspection. This copy will be reviewed and returned after final inspection with Owner's Representative and Architect comments. Revise content of all document sets as required prior to final submission.
 5. Submit two sets of revised final documents in final form within 10 days after final inspection.
- D. Warranties.
 1. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 2. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
 7. O&M Manuals.
- B. Ensure entries are complete and accurate, enabling future reference by Owner's Representative.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
 1. Review with Owner's Representative with each application for payment.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

2. Owner's Representative shall verify record mark-up are up to date.
 3. Failure to maintain mark up will be cause for rejecting the application.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract drawings.
- G. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and approved Shop Drawings at the project site.
- H. Each Contractor is responsible for marking up Sections that contain its own Work and for submitting the complete set of record Specifications as specified.
- I. Preparation: Mark Record Prints 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 prepare the marked-up Record Prints.
1. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 2. Accurately record information in an understandable drawing technique.
 3. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
- J. Content: Types of items requiring marking include, but are not limited to, the following:
1. Dimensional changes to Drawings.
 2. Revisions to details shown on Drawings.
 3. Locations and depths of underground utilities.
 4. Revisions to routing of piping and conduits.
 5. Revisions to electrical circuitry.
 6. Actual equipment locations.
 7. Duct size and routing.
 8. Locations of concealed internal utilities.
 9. Changes made by Change Order or Construction Change Directive.
 10. Changes made following Owner's Representative and Architect 's written orders.
 11. Details not on the original Contract Drawings.
 12. Field records for variable and concealed conditions.
 13. Record information on the Work that is shown only schematically.
- K. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
- L. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.

- M. Mark important additional information that was either shown schematically or omitted from original Drawings.
- N. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- O. **Provide ALL final record documents on flash drive in PDF-A Format.**

3.2 FORMAT

- A. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Contractor shall certify and sign.
- B. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record PDF Drawings: Organize PDF information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each PDF file.
- D. Identify Record Drawing as follows:
 - 1. Project name.
 - a. Date.
 - b. Designation "PROJECT RECORD DRAWINGS."
 - c. Name of Owner, Owner's Representative, Architect , Consultants, and Construction Manager.
 - d. Name of Contractor.
 - e. Contractor shall certify and sign each drawings or attached TOC as follows:
 - a) "We the undersigned certify that we have reviewed and coordinated the As-Built Drawings and they are in conformance to the plans, specifications, applicable codes and provisions of the Contract Documents. To the best of our knowledge all items reflected on the As-Built Drawings are a true representation of the site and building conditions".

3.3 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.4 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.5 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

2. Identify function, normal operating characteristics, and limiting conditions.
 3. Include performance curves, with engineering data and tests.
 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
1. Include HVAC outdoor and exhaust air damper calibration strategy.
 - a. Include provisions which ensure that full closure of dampers can be achieved.
 2. Include Carbon Dioxide Monitoring Protocol.
 3. Include Carbon Monoxide Monitoring Protocol.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide contractors's coordination drawings, with color coded piping diagrams as installed.
- M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- O. Include test and balancing reports.
- P. Additional Requirements: As specified in individual product specification sections.

3.6 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Port Chester - Rye UFSD's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Owner's Representative, Fuller and D'Angelo, P.C., Consultants, Construction Manager, Contractor, and Subcontractors with names of responsible parties.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

- F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- H. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- J. Arrangement of Contents: Organize each volume in parts as follows:
 - 1. Project Directory.
 - 2. Table of Contents, of all volumes, and of this volume.
 - 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Operation and maintenance data.
 - c. Field quality control data.
 - d. Photocopies of warranties and bonds.
- K. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
 - 1. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.

3.7 WARRANTIES

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Port Chester - Rye UFSD's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties until time specified for submittal.
- E. Manual: Bind in commercial quality 8-1/2 by 11 inch (216 by 279 mm) three D side ring binders with durable plastic covers.
- F. Cover: Identify each binder with typed or printed title WARRANTIES, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

CHECKLIST FOR PROJECT CLOSEOUT AND PROCESSING OF FINAL PAYMENT
SUBMIT CHECKLIST WITH COSEOUT DOCUMENTS

Project: King Street Boilers Replacement

Owner: Port Chester-Rye UFSD

Architect Project #: 22468.00

CLOSE-OUT SUBMITTALS: (As Applicable. Include this checklist with submittal)

SUBSTANTIAL COMPLETION

- ☐ UL Certification or equivalent.
- ☐ Three (3) Ring Binder Brochures of Operation And Maintenance Manuals For All Equipment Installed on The Project including the following:
 - ☐ Typed or Printed Instructions Covering The Care And Operations of Equipment And Systems Furnished And Installed.
 - ☐ Start-up Performance Reports
 - ☐ Test/Balancing Reports.
 - ☐ Final Survey
 - ☐ Manufacturers Instruction Books, Diagrams, Spare Parts Lists Covering All Equipment.
 - ☐ Instruction of Owner's Representative In Care And Maintenance of New Equipment.
 - ☐ All Approved Shop Drawings and Submittals.
 - ☐ Third Party Inspections Reports.
 - ☐ Field Reports Executed by each Prime Contractor.
 - ☐ Video Training Sessions.
 - ☐ Surveys and survey logs.
 - ☐ Certificates of Compliance And Inspection. (Where Applicable Electric, Elevator, Etc.)
- ☐ Spare Parts, O&M and Maintenance Materials. (Receipt Signed By Field Superintendent)
- ☐ Evidence of Compliance With Requirements Of Governing Authorities (Certificates Of Inspection Electrical).
 - ☐ Certificates of Insurance For Products And Completed Operations.
 - ☐ Fully Executed Certificate of Substantial Completion: AIA G704 (Issued by Architect).
 - ☐ Construction Manager's Written Two-Year Warranty And Extended Warranties (If Any Required).
 - ☐ Manufacturer's Warranty/Guaranties
 - ☐ Manifest for Disposal of Hazardous Material.
 - ☐ Manifest for Disposal of Material.
 - ☐ Architect's Punch List Items, **including photographs**, certifying all Punch List have been completed with sign-off by Construction Manager and Contractor.
 - ☐ Project Record Documents.
 - ☐ Approved As-Built Drawings. (Printed Copy and PDF Format with corrections if any)
- ☐ **All files listed above shall be submitted on USB flash drive**

_____ Date _____
(Authorized signing officer, Title)

FINAL COMPLETION

- ☐ Affidavit of Payment of Debts And Claims: AIA G706.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

- ☐ Affidavit of Final Release of Liens - AIA G706a for all with Lien Right Against The Owner's Property.
- ☐ Notarized Statement That Only Non-Asbestos Materials Were Installed On This Project.
- ☐ Consent Of Surety To Final Payment AIA G707.
- ☐ Certification of Payment of Prevailing Wage Rates.
- ☐ Contractor's Certification of Compliance that products comply with VOC requirements stated in Section 01 6116.
- ☐ DOL PW 200 Form.

(Authorized signing officer, Title)

Date

Final payment will not be processed until all items indicated are received and approved in accordance with Section 01 7800 - Closeout Submittals by the Construction Manager .

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CLOSEOUT SUBMITTALS

SECTION 01 7900
DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Demonstration of products and systems where indicated in specific specification sections.
- B. Training of Port Chester - Rye UFSD personnel in operation and maintenance is required for:
 - 1. All software-operated systems.
 - 2. HVAC systems and equipment.
 - 3. Plumbing equipment.
 - 4. Electrical systems and equipment.
 - 5. Items specified in individual product Sections.
- C. Training of Port Chester - Rye UFSD personnel in care, cleaning, maintenance, and repair is required for:
 - 1. Finishes, including flooring, wall finishes, ceiling finishes.
 - 2. Fixtures and fittings.
 - 3. Items specified in individual product Sections.

1.3 RELATED REQUIREMENTS

- A. Section 01 7800 - Closeout Submittals: Operation and maintenance manuals.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Training Plan: Port Chester - Rye UFSD will designate personnel to be trained; tailor training to needs and skill-level of attendees.
 - 1. Submit to Owner's Representative for transmittal to Owner's Representative.
 - 2. Submit not less than four weeks prior to start of training.
 - 3. Revise and resubmit until acceptable.
 - 4. Provide an overall schedule showing all training sessions.
 - 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such as slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Owner's Representative.
- C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
 - 1. Include applicable portion of O&M manuals.
 - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 - 3. Provide one extra copy of each training manual to be included with operation and maintenance data.

- D. Video Recordings: Submit digital video recording of each demonstration and training session for Port Chester - Rye UFSD's subsequent use.
 - 1. Format: DVD Disc or USB Flash Back.
 - 2. Label each disc and container with session identification and date.

1.5 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
 - 1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
 - 2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 DEMONSTRATION - GENERAL

- A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner's Representative.
- B. Demonstration may be combined with Owner personnel training if applicable.
- C. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.
 - 2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.2 TRAINING - GENERAL

- A. Conduct training on-site unless otherwise indicated.
- B. Owner's Representative will provide classroom and seating at no cost to Prime Contractor(s).
- C. Provide training in minimum two hour segments.
- D. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Prime Contractor(s) for personnel "show-up" time.
- E. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 - 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
 - 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
 - 3. Typical uses of the O&M manuals.
- F. Product- and System-Specific Training:
 - 1. Review the applicable O&M manuals.
 - 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
 - 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
DEMONSTRATION AND TRAINING

4. Provide hands-on training on all operational modes possible and preventive maintenance.
 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
 6. Discuss common troubleshooting problems and solutions.
 7. Discuss any peculiarities of equipment installation or operation.
 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
 10. Review spare parts and tools required to be furnished by Prime Contractor(s).
 11. Review spare parts suppliers and sources and procurement procedures.
- G. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
DEMONSTRATION AND TRAINING

SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Concrete formwork.
- B. Slabs on grade.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Concrete curing.
- F. Mix design.
- G. Concrete materials.
- H. Placement procedure.
- I. Field Quality Control.

1.3 RELATED REQUIREMENTS

- A. Section 07 9200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.
- B. Section 31 2316 - Excavation for drainage fill under slab-on grade.

1.4 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete; 2016.
- B. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).
- D. ACI 305R - Guide to Hot Weather Concreting; 2010.
- E. ACI 308R - Guide to External Curing of Concrete; 2016.
- F. ASTM A185/A185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- G. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.
- H. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2016, with Editorial Revision (2016).
- I. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2017b.
- J. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2017a.
- K. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2015a.
- L. ASTM C150/C150M - Standard Specification for Portland Cement; 2017.
- M. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.
- N. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).
- O. ASTM C367 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar.

- P. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2014.
- Q. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics; 2015.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions for each product indicated.
- C. Mix Design: Submit proposed concrete mix design with NY State PE seal and signature.
 - 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.
 - 3. Indicate amounts of mixing water to be withheld for later addition at Project site.
- D. Test Reports: Submit report for each test or series of tests specified.
- E. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Material Certificates: For each of the following, signed by manufacturers:
 - a. Cementitious materials.
 - b. Steel reinforcement and accessories.
 - c. Curing compounds.
 - d. Bonding agents.
- F. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.6 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Manufacturer/Supplier Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- D. Installer Qualifications: The work of this section shall be performed by a qualified installer, with a minimum of five (5) years experience, approved by the Owner's Representative. The term "installer" used herein, shall mean a firm of established reputation which is regularly engaged in and which maintains a regular force of workmen skilled in the installation of the type of work specified in this section.
- E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
- F. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- G. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- H. Preinstallation Conference: Conduct conference at Project site to comply with requirements.-
 - 1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Concrete subcontractor.

- d. Owner's Representative.
- I. Delivery Records: Each delivery to the site of concrete shall be accompanied by weigh master's certification. Retain all copies for inspection by the Testing Agency.
 - 1. Indicate water added to mix a job site on each delivery ticket. Show quantity of water added. Site water tempered mixes exceeding specified slump range will be rejected as not complying with specification requirements

1.7 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials so as to preserve their quality and fitness for work.
- B. Store reinforcement and formwork in manner to prevent bending, damage (including damage to coatings), and accumulation of dirt.
- C. All packed materials shall be delivered to the site in original unopened containers, clearly indicating manufacturer's name, brand name, and other identifying information.

1.9 PROJECT CONDITIONS

- A. Coordinate with the work of all other sections and/or separate contracts.
- B. Contractor shall be responsible for correction of concrete work not conforming to specified requirements, including strength, tolerances, and finishes. Correct deficient concrete as directed by Owner's Representative and Architect.
- C. Remove work found to be defective. Replace with new acceptable work

PART 2 PRODUCTS

2.1 FORMWORK

- A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.
 - 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.

2.2 CONCRETE MATERIALS

- A. Fine and Coarse Aggregates: ASTM C33/C33M.
 - 1. Gradations:
 - a. For Slabs on Grade:

Sieve Size	Percent Passing
1 inch	95 to 98.5
3/4 inch	75 to 94
1/2 inch	25 to 50
3/8 inch	10 to 25
No.4	0 to 10
- B. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.
- C. Premixed Concrete (Contractor's Option)
 - 1. Pre-blended mixture of cement and aggregates for general structural uses, requiring only the addition of water.
 - 2. Slump: ASTM C143: 2" to 3".. (50mm to 75mm).
 - 3. Unit Weight: ASTM C138 140 lb/cu. ft. (2242.5 kg/cu.M).
 - 4. Compressive Strength: 4,000psi (27.5 MPa) @ 28 days.

5. Aggregates: Manufacturer's standard.
6. Water: As per manufacturer recommendations.
7. Product: "Quickrete" No. 1101

2.3 ADMIXTURES

- A. Air Entrainment Admixture: ASTM C260/C260M.
- B. Chemical Hardener: Fluosilicate solution designed for densification of cured concrete slabs.

2.4 ACCESSORY MATERIALS

- A. Underslab Vapor Retarder:
 1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
 2. Manufacturers:
 - a. "Griffolyn T-65G" by Reef Industries In, three-ply, nylon- or polyester-cord-reinforced, high-density polyethylene sheet; laminated to a nonwoven geotextile fabric, 30 mils (0.76 mm) thick..
 - b. Substitutions: See Section 01 2500 Substitution Procedures.
- 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.
 3. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch (48 MPa).
 4. Products containing aluminum powder are not permitted.
 5. Flowable Products:
 - a. W. R. Meadows, Inc; 588-10K: www.wrmeadows.com/#sle.
- C. Non-Shrink Epoxy Grout: Moisture-insensitive, two-part; consisting of epoxy resin, non-metallic aggregate, and activator.
 1. Composition: High solids content material exhibiting positive expansion when tested in accordance with ASTM C827/C827M.
 - a. Maximum Height Change: Plus 4 percent.
 2. Minimum Compressive Strength at 7 days, ASTM D695: 12,000 pounds per square inch (82.7 MPa).
 3. Manufacturers:
 - a. W. R. Meadows, Inc; REZI-WELD 3/2: www.wrmeadows.com.

2.5 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
 1. Manufacturers:
 - a. W. R. Meadows, Inc; ACRY-LOK-: www.wrmeadows.com.
 - b. Substitutions: See Section 01 2500 Substitution Procedures..
- B. Epoxy Bonding System:
 1. Complying with ASTM C881/C881M and of Type required for specific application.
 2. Products:
 - a. Euclid Chemical Company; DURAL 452 GEL, DURAL 452 LV, or DURAL 452 MV: www.euclidchemical.com.
 - b. Substitutions: See Section 01 2500 Substitution Procedures..

2.6 CURING MATERIALS

- A. Moisture-Retaining Sheet: ASTM C171.
 - 1. Polyethylene film, clear, minimum nominal thickness of 4 mil, 0.004 inch (0.102 mm).
- B. Water: Potable, not detrimental to concrete.

2.7 CONCRETE MIX DESIGN

- A. Concrete Strength: Establish required average strength for concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
- B. Normal Weight Concrete:
 - 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,000 pounds per square inch (27.6 MPa).
 - 2. Water-Cement Ratio: Maximum 0.45.
 - 3. Total Air Content: 6 percent, determined in accordance with ASTM C173/C173M
 - a. Use for all exterior concrete.
 - 4. Maximum Slump: 4 inches (100 mm).
- C. Premix Concrete: (Contractors Option) Pre-blended mixture of cement and aggregates for general structural uses, requiring only the addition of water.
 - 1. Refer to manufacturer's instruction.

2.8 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.
- C. Premix Concrete: As per Manufacturer's instructions.

2.9 REINFORCING FABRICATION

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice." Fabricate bars to required lengths, shapes, and bends. Do not re-bend or straighten reinforcement in manner that could weaken material.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.
- B. Do not proceed with work until unsatisfactory conditions are corrected.

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. Verify that forms are clean and free of rust before applying release agent.
- C. Clean and coat forms before erection. Do not coat forms in place.
- D. Penetrations shall not occur through footings, piers, columns, beams, joists, grade beams, or supported slabs unless shown in structural drawings
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- F. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. 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.

- G. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as indicated on drawings. Do not use sand.

3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Notify Owner's Representative not less than 24 hours prior to commencement of placement operations.
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- D. Repair underslab vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight
- 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.
 - 1. Slabs on Grade: Use strip pour methods and mechanical vibratory screed whenever possible.
 - 2. Deposit and consolidate concrete in continuous operation within limits of construction joints until placing of panel or section is complete.
 - 3. Consolidate concrete during placing operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 4. Bring slab surfaces to correct level with a straightedge and strike off. Uniformly slope to drains. Use darbies to smooth surface, leaving it free of humps or hollows. Do not sprinkle water or portland cement on plastic surface. Do not disturb slab surfaces before beginning finishing operations.
 - 5. For floor areas with drains, Contractor shall be responsible for finishing concrete slabs to proper elevations to ensure surface moisture will drain freely to floor drains and no puddle areas exist. Reference elevations shown in drawings.
- F. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 309.
- G. Do not use vibrators to transport concrete inside formwork.

3.4 SLAB JOINTING

- A. Locate joints as indicated on drawings or as recommended by ACI 302.
- B. For placement of slabs that will be subsequently concealed with an architectural finish material place slabs with few construction joints or as recommended by ACI 302.
- C. Anchor joint fillers and devices to prevent movement during concrete placement

3.5 CONCRETE FINISHING

- A. Repair surface defects, immediately after removing formwork.
- B. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Broom Finish: Apply a broom finish in areas receiving foot traffic.
 - a. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.
 - 2. Surfaces to Be Left Exposed: Steel Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
- C. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains as indicated on drawings.

3.6 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.
 - 1. Normal concrete: Not less than seven days.

3.7 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design 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. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.
- F. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

3.8 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Owner's Representative 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 Owner's Representative. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Owner's Representative for each individual area.

3.9 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CAST-IN-PLACE CONCRETE

**SECTION 05 5000
METAL FABRICATIONS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Shop fabricated steel items.
- B. Steel framing for new openings in roof.

1.3 RELATED REQUIREMENTS

- A. Section 01 4000 - Quality Requirements for testing requirements and procedures.

1.4 REFERENCE STANDARDS

- A. 29 CFR 1910.23 - Ladders; current edition.
- B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
- D. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- E. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2013.
- F. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.
- G. ASTM B211/B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire; 2019.
- H. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021.
- I. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.
- J. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015, with Errata (2016).
- K. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2014, with Errata.
- L. SSPC-SP 2 - Hand Tool Cleaning; 1982, with Editorial Revision (2004).

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. 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. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer, licensed in the State of New York responsible for their preparation

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of New York and who is experienced in providing engineering services of the kind indicated.

Engineering services are defined as those performed for installations of cold-formed metal framing that are similar to those indicated for this Project in material, design, and extent.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication and indicate measurements on Shop Drawings.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating metal fabrications without field measurements. Coordinate wall and other contiguous construction to ensure that actual dimensions correspond to established dimensions.
 - 2. Provide for trimming and fitting at site.

1.8 COORDINATION

- A. Coordinate installation of anchorages for metal fabrications. 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.
- B. Coordinate with Plumbing, Mechanical, and Electrical Contractor's equipment prefabricated equipment, curbs, portals, and conduit.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
- C. Plates: ASTM A283/A283M.
- D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.
- E. Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, galvanized to ASTM A 153/A 153M where connecting galvanized components.
- F. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- G. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
- H. Touch-Up Primer for Galvanized Surfaces: Refer to Section 09 9113 Exterior Painting.

2.2 FABRICATION

- A. Shop Assembly: 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. Fit and shop assemble items in largest practical sections, for delivery to site.
- E. Fabricate items with joints tightly fitted and secured.
- F. 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. Do not use ferrous material and equipment on stainless steel components.
 - 3. Obtain fusion without undercut or overlap.
 - 4. Remove welding flux immediately.

- 5. 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
- G. 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.
- H. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, at exterior walls. Provide stainless-steel fasteners for fastening aluminum. Select fasteners for type, grade, and class required.
- B. Expansion Anchors: Anchor bolt and sleeve assembly with capability to sustain, 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 E 488, conducted by a qualified independent testing agency.
 - 1. Material for Anchors in Exterior Locations: Alloy Group 1 stainless-steel bolts complying with ASTM F 593 and nuts complying with ASTM F 594

2.4 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 retained by framing and supports. Cut, drill, and tap units to receive hardware, hangers, and similar items.

2.5 FINISHES - STEEL

- A. Refer to Section 09 9123 Interior Painting.
- B. Prime paint steel items.
 - 1. Prime paint all steel items except:
 - a. Galvanize items to be embedded in concrete and items to be embedded in masonry.
 - b. Do not prime surfaces in direct contact with concrete, where field welding is required, and items to be covered with sprayed fireproofing.
- C. Prepare surfaces to be primed in accordance with SSPC-SP2.
- D. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- E. Prime Painting: One coat.
 - 1. Refer to Section Section 09 9123 Interior Painting and Section 09 9113 Exterior Painting for preparation, prime coats and finish coats for all exterior exposed ferrous metal.

2.6 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.

3.3 INSTALLATION

- A. Install fabricated items as per manufacturer's instructions
- B. Install items plumb and level, accurately fitted, free from distortion or defects.
- C. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- D. Field weld components as indicated on shop drawings.
- E. Perform field welding in accordance with AWS D1.1/D1.1M.
- F. Obtain approval prior to site cutting or making adjustments not scheduled.
- G. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

3.4 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch (6 mm) per story, 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 06 1010
ROOF RELATED ROUGH CARPENTRY

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the schedules, keynotes, drawings, as specified herein, and as may be required by conditions and including, but not limited to, the following:
 - 1. Related wood nailers, blocking, shims, and plywood.

1.3 RELATED REQUIREMENTS

- A. Section 07 5010 - Modifications to Existing Roofing.
- B. Section 07 6200 - Sheet Metal Flashing and Trim.

1.4 REFERENCE STANDARDS

- A. APA PRP-108 - Performance Standards and Qualification Policy for Structural-Use Panels (Form E445); 2001.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.
- D. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2017a.
- E. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2017.
- F. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials; 2013.
- G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2017.
- H. AWPA U1 - Use Category System: User Specification for Treated Wood; 2017.
- I. ICC (IBC) - International Building Code; 2018.
- J. ICC (IECC) - International Energy Conservation Code; 2018.
- K. PS 1 - Structural Plywood; 2009.
- L. WCLIB (GR) - Standard Grading Rules for West Coast Lumber No. 17; 2015.
- M. WWPA G-5 - Western Lumber Grading Rules; 2017.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. A firm (Installer) with at least 5 continuous years experience performing carpentry work comparable to that required for this project, employing personnel skilled in the work specified.
 - 2. The Installer shall directly employ the personnel performing the work of this section.
 - 3. The Installer shall have a full time supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience in work similar in nature and scope to this project, and speak fluent English.
- B. Pre-Construction Conference: Attend the pre-construction meeting to discuss how and when carpentry work will be performed and coordinated with other work, and how the building will be kept watertight as work occurs.

1.6 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:
 - 1. A pre-work site and building inspection report with photos, to document conditions before work starts.
 - 2. Mill or Manufacturer data sheets to identify the source for each type of lumber and fastener.
 - 3. Shop drawings or 2 foot long on-site samples which show the size, shape, configuration and method of fastening for all wood blocking assemblies, and which show how the blocking assemblies will relate to other adjoining work.
 - 4. Simultaneously provide all technical data submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 - a. Submittals shall be prepared and made by the firm that will perform the actual work.
 - b. Provide electronic submittals in pdf format, organized in folders by Section.
- B. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building to the Owner's Representative.
- C. Manufacturer's Certificate: Certify that wood products supplied meet or exceed specified requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store materials dry at all times.
 - 1. Cover with tarps and protect against exposure to weather and contact with damp or wet surfaces.
- B. Support stacked products to prevent deformation and to allow air circulation.
- C. Do not overload the structure when storing material on the roof. Material stored on the roof shall be placed on 2 by 10 wooden planks, placed over 1-1/2 inch foam insulation, that is laid on a layer of 6 mil fire retardant polyethylene.

1.8 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
- B. Correct defective Work within a two (2) year period after Date of Substantial Completion.
- C. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for a five (5) year period beginning upon Final Completion:
 - 1. Defective work includes but is not limited to the following types of failure: leakage, delamination, lifting, loosening, splitting, cracking, and undue expansion.
 - 2. The Contractor's Guarantee shall provide that the Contractor will make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
 - 3. The Guarantee shall include the removal and replacement of items or materials installed as part of the original work, if removal is needed to affect guaranteed repairs.
- D. Provide one Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple sections.
- E. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- F. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Wood, including shims, nailers, blocking, furring and similar members, in the sizes indicated, worked into the shapes shown, and as follows:
 - 1. Lumber: Douglas Fir dimension lumber, free of large knots and other imperfections.
 - 2. Plywood: Exterior grade APA rated Type CDX underlayment plywood.
 - 3. Beveled Siding: Utility grade cedar, redwood, or synthetic siding, 1/2 inch by 6 inches and 3/4 inch by 10 inches wide, tapered to 1/8 inch thick.
- B. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.
 - 1. Material Quality: Obtain each type of material from a single source to ensure consistent quality, color, pattern, and texture.
 - 2. Pre-Work Conference: Attend the pre-roofing meeting to discuss how carpentry work will be performed and coordinated with other work.
- C. Lumber fabricated from old growth timber is not permitted.
- D. Metal including light gage metal channels and studs shall be factory formed of minimum 20 gauge cold, unless otherwise noted, formed galvanized steel.
- E. Preservative Pressure Treatment of Lumber Above Grade: AWWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - 1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - 2. Treat lumber in contact with roofing, flashing, or masonry.

2.2 FASTENERS

- A. Hot dipped galvanized steel, stainless steel, or steel covered with a proprietary rust inhibiting coating.
- B. Use screws wherever possible, minimum size diameter #12. If nails are used they shall be annular ring shank type. Do not use dry wall screws to secure wood blocking assemblies.
- C. Hot dipped galvanized steel, stainless steel, or steel covered with a proprietary rust inhibiting coating.
- D. Metal and Finish: Stainless steel for high humidity and preservative-treated wood locations, galvanized elsewhere.

PART 3 EXECUTION

3.1 INSTALLATION - GENERAL

- A. Coordinate carpentry work with the installation of the roofing system, insulation, flashings, and other similar items.
- B. Shim and set carpentry work plumb and true, except provide slope at the top surfaces of horizontal members as indicated.
- C. Stagger joints in built up assemblies at least 2 feet to obtain maximum strength. Provide the appropriate shapes needed and adjust wood members to suit existing conditions for full bearing and secure attachment. Discard defective material, and pieces which are too small, and fabricate the work with a minimum of joints and an optimum joint arrangement.
- D. Securely attach carpentry work to resist a pull of 275 pounds per lineal foot in any direction. Countersink all fasteners flush unless otherwise shown.
- E. Blocking used for the attachment of roof assembly and flashing shall be dry prior to roof or flashing is installed.
- F. Space fasteners to achieve adequate holding power, generally as follows:
 - 1. Anchor bolts embedded in concrete, drilled anchors into concrete or masonry, screws into a steel deck or structural steel member, or screws into wood framing: 12 inches on center.
 - 2. Nails into wood: 8 inches on center.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ROOF RELATED ROUGH CARPENTRY

- 3. Install two rows of fasteners on blocking wider than 5 inches.
- G. Fit carpentry work neatly scribed and cut to fit within 1/8 inch of adjoining materials. Position furring, nailers, blocking, shims and similar supports for the proper attachment of subsequent work.
- H. Fasten wood blocking assemblies to metal decks with #12 screws. Pre-drill holes as needed. .

3.2 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Contractor shall inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any leaks or damage, prior to performing any work.
- B. The Owner's Representative will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks or damage which was not documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Frequently clean up all refuse, rubbish, scrap materials and debris so the work site presents a neat, orderly and workmanlike appearance.
- F. Carefully clean the roof to remove all residual debris when work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

3.3 WASTE DISPOSAL

- A. Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
- B. Comply with applicable regulations.
- C. Do not burn scrap on project site.
- D. Do not burn scraps that have been pressure treated.
- E. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.

END OF SECTION

SECTION 07 5010
MODIFICATIONS TO EXISTING ROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Existing roof is under warranty.
 - 1. Contractor must notify and be authorized by the manufacturer to perform all work as per the manufacturer's instruction.
- B. Modification to existing EPDM membrane roofing system.
- C. Remove all existing roofing and flashings as required to provide new openings for mechanical equipment as show on drawings.
- D. Cut new openings and install curbs.
- E. Disposal of removal and construction waste is the responsibility of the Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- F. Clean all residual material from substrate surfaces and the flutes of any exposed steel deck - prior to installing new insulation and roofing. Install new insulation, roofing and flashings only on dry smooth surfaces.
- G. Provide any hoisting and other work needed, and remove, adjust, modify, reset and reconnect all roof-mounted and roof-penetrating devices to enable new roofing and flashings to be installed as shown. Coordinate with mechanical and electrical primes.
- H. Install new support steel and decking, insulation to finish flush with the deck substrate, new insulation and roofing to make the building permanently watertight - within 72 hours after each piece of equipment is removed.
- I. Maintain building watertight at all times.
- J. Commencement of work by Contractor shall constitute acknowledgement by Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing membrane manufacturer. No modification of the Contract Sum will be made for failure to adequately examine the Contract Documents or the project conditions.

1.3 RELATED REQUIREMENTS

- A. Section 05 5000 - Metal Fabrications. Roofing modifications required by miscellaneous roof supports.
- B. Section 06 1010 - Roof Related Rough Carpentry Wood nailers associated with roofing and roof insulation.
- C. Section 07 6200 - Sheet Metal Flashing and Trim: Formed metal flashing and trim items associated with roofing.

1.4 REFERENCE STANDARDS

- A. ASTM D1079 - Standard Terminology Relating to Roofing and Waterproofing; 2016.
- B. PS 1 - Structural Plywood; 2009.
- C. PS 20 - American Softwood Lumber Standard; 2015.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference: Before start of roofing work, Prime Contractor. shall hold a meeting to discuss the proper installation of materials, status of the existing warranty, requirements to maintain the

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
MODIFICATIONS TO EXISTING ROOFING

existing warranty, and manufacturer's approval of the installer and requirements to maintain the existing warranty..

1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.
2. Notify Owner's Representative or Architect well in advance of meeting.

1.6 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data:
 1. Provide manufacturer's printed data sufficient to show that all components of roofing systems, including insulation and fasteners, comply with the specified requirements and with the roofing manufacturer's requirements and recommendations for the system type specified; include at least the following:
 - a. Technical data sheet for roof membrane.
 - b. Technical data sheets for splice tape and adhesives.
 - c. Technical data sheet for each insulation type.
 - d. Technical data sheets for each cover board type.
 2. Where the existing roofing system is UL or FM approved provide documentation that shows that the modification installed is UL-Classified or FM-approved, as applicable; include data itemizing the components of the classified or approved system.
 3. Pre-Work Site and Building Inspection Report with photos to documents conditions before commencing work.
 4. Written certification from the manufacturer which states that the installer is acceptable or licensed to install the specified roofing; if not previously provided.
- C. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications for all systems under warranty.

1.7 CODE APPROVAL REQUIREMENTS

- A. Install roofing and insulation system components to meet the following minimum requirements:
 1. New York State Uniform Fire Prevention and Building Code, which includes by reference the New York State Energy Conservation Code.
 2. Underwriters Laboratories Inc. Class A External Fire Rating for roof assemblies tested in accordance with ASTM E 108 or UL 790.
 3. Underwriters Laboratories Inc. Standard 1256 for roof assemblies with foam insulation.
 4. Minimum wind uplift pressure calculated using ASCE 7 and a safety factor of 2:
 - a. Field Zone - 90 psf
 - b. Perimeter Zones - 135 psf
 - c. Corner Zone - 180 psf
- B. Provide written certification from the roof material Manufacturer, before beginning work, to confirm the roofing system meets these requirements.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: Roofing installer shall have the following:
 1. **The existing roofing system is under warranty.** The Contractor or their subcontractor must notify and be authorized by the manufacturer to perform all work as per the manufacturer's instruction.
 - a. Manufacturer's Warranty: Certification from manufacturer that the existing warranty covering membrane, roof insulation, and other indicated components of the system, shall remain the new and existing terms of the original warranty.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
MODIFICATIONS TO EXISTING ROOFING

2. A firm (Installer) with not less than 5 continuous years experience performing EPDM roofing work similar to that required for this project, employing personnel skilled in the specified work.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a full time supervisor/foreman on the roof when roofing work is in progress. The Supervisor shall have a minimum of 5 years experience in roofing work similar in nature and scope to this project, and speak fluent English.
 - c. The Installer shall provide a reference list of at least three projects of comparable size and similar design, within a fifty mile radius of this project, which may be observed by representatives of the Owner:
 - a) The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b) The Installer shall provide the reference list prior to contract award if requested.
 - d. The Installer shall be acceptable to or licensed by the Manufacturer of the primary roofing materials, and provide written certification from the Manufacturer to confirm this prior to award if requested.
- B. Material Quality: Obtain each product, including the insulation, cover board, EPDM roofing and flashing, and cements, primers and adhesives produced by a single Manufacturer, which has manufactured the same products in the United States of America for not less than 5 continuous years.
- C. Pre-Work Conference: Meet at the project site approximately one week prior to starting roof work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
 1. How the building will be kept watertight as old roofing is removed and the work progresses.
 2. How new roofing work will be coordinated with mechanical equipment work, replacement of deteriorated existing insulation and the installation of new insulation, cover board, flashings and other items to provide a watertight installation.
 3. Generally accepted industry practice, the Manufacturer's instructions for handling and installing his products, and project specific work requirements.
 4. The condition of the substrate (deck), curbs, penetrations and preparatory work needed by trades other than the roofer.
 5. Submittals, if any remain incomplete.
 6. The construction schedule, weather forecast for the work period, availability of materials, personnel, equipment and facilities needed to proceed and complete the work in an expeditious manner and on schedule.
 7. A schedule for Manufacturer and Architect inspections.

1.9 JOB CONDITIONS (CAUTIONS & WARNINGS)

- A. Do not use oil base or plastic roof cement with EPDM roofing. Do not allow waste products, (petroleum grease or oil, solvents, vegetable or mineral oil, animal fat) or direct steam venting to come in contact with any roofing, insulation or flashing product. Do not expose EPDM roofing and accessories to a temperature in excess of 175 degrees Fahrenheit.
- B. Splice cleaner, primer, cements and bonding adhesives are flammable. Do not breathe vapors or use near fire or flame or in a confined or unventilated area. Dispense only from a UL listed or approved safety can.
- C. Remove empty adhesive and solvent containers and contaminated rags from the roof and legally dispose of them daily.
- D. Do not apply adhesives adjacent to open ventilation system louvers, or windows. Temporarily cover the louvers and windows with 6 mil fire retardant polyethylene and prevent adhesive odors from entering the building. Remove temporary covers at the end of each days work.

1.10 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, bearing labels which identify the type and names of the products and Manufacturers, with the labels intact and legible.
- B. Cover all stored materials, except rolls of EPDM and sealed cans of adhesives, with watertight tarpaulins installed immediately upon delivery.
- C. Immediately remove any insulation which gets wet from the job site.
- D. Do not overload the structure when storing materials on the roof.
- E. Store and install all material within the Manufacturer's recommended temperature range.

1.11 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Existing Roof System Under Warranty
 - 1. If the existing roofing system is under warranty the Prime Contractor or their subcontractor must notify and be authorized by the manufacturer to perform all work as per the manufacturer's instruction.
 - a. Manufacturer's Warranty: Certification from manufacturer that the existing warranty covering membrane, roof insulation, and other indicated components of the system, shall remain the new and existing terms of the original warranty.
 - 2. Comply with all warranty procedures required by manufacturer, including notifications
Manufacturer's Warranty: Certification from manufacturer that the existing warranty covering membrane, roof insulation, and other indicated components of the system, shall remain the new and existing terms of the original warranty, scheduling, and inspections:
 - 3. Manufacturer's Warranty: Certification from manufacturer that the existing warranty covering membrane, roof insulation, and other indicated components of the system, shall remain the new and existing terms of the original warranty Contractors warranty.
 - 4. Manufacturer's and Contractor's Guarantees/Warranties shall be issued no more than 30 days before the satisfactory completion of punch list work.

PART 2 PRODUCTS

2.1 GENERAL

- A. Acceptable Manufacturer - Roofing System: Match existing manufacturers roofing system.
 - 1. Roofing systems by other manufacturers are not acceptable if existing roof is under warranty.
- B. Substitutions: See Section 01 2500 - Substitution Procedures

2.2 EPDM ROOFING

- A. Unreinforced 60 mils thick, fire retardant, EPDM (Ethylene Propylene Diene Monomer) sheet membrane conforming to the following minimum physical properties.

1. PROPERTY	TEST METHOD	SPECIFICATION
2. Color- Gray/Black		
3. Elongation	ASTM D-412	300% min
4. Tear Strength	ASTM D-624	150 lb/in min
5. Ozone Resistance	ASTM D-1149	No cracks, 7 days/100 pphm/100°F/50% strain
6. Heat Aging	ASTM D-573	1200 psi min@ 200% elongation/4 wks/240°F
7. Brittleness Temperature	ASTM D-746	-49°F
8. Water Vapor Permanence	ASTM E-96	2.0 perm max
9. Thickness	ASTM D-412	60 mils plus/minus 6 mils

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
MODIFICATIONS TO EXISTING ROOFING

10. Fire Retardant

UL Class A

B. Related Materials:

1. Cleaners, adhesives, sealants, caulking and fasteners furnished by the EPDM system Manufacturer. Use low VOC adhesives and cleaners to comply with regulations in effect at the time of application.
 - a. Stripping: 90 mil thick 5 inch and 9 inch wide self adhering flashing, consisting of 45 mils of semi-cured EPDM factory laminated to 45 mils of cured seaming tape.
 - b. Bonding Adhesive: High strength contact adhesive.
 - c. Splice Adhesive: High strength synthetic polymer based contact cement formulated specifically to splice EPDM sheets.
 - d. Lap Sealant: EPDM rubber based gun grade sealant.
 - e. Water Block Seal: One component low viscosity butyl rubber sealant.
 - f. Pre-Molded Pipe Flashing: Pressure sensitive prefabricated flashings with pre-applied adhesive.
 - g. Pourable Sealer: Two component, solvent free polyurethane based sealant.
 - h. Reinforced Perimeter Fastening Strips: .030 inch thick reinforced cured EPDM.
 - i. Seam Tape Primer: Synthetic rubber polymer based primer designed to clean and prime seam tape splice areas prior to installing the tape.
 - j. Seam Splice Tape: Nominal 30 mil thick cured polymer self adhesive tape with release paper carrier, 6 inches wide.
 - k. Plates and Bars: Galvanized and corrosion resistant specialty products.
 - l. Fasteners: #14 Fluorocarbon polymer coated heavy duty screws.

- C. Gypsum Cover Board: 1/4 inch thick fire resistant gypsum board decking with inorganic glass mat facers and a water resistant core, formulated in 48 x 48 inch square edge boards, UL Class A, meeting ASTM C-1177, manufactured under the trade name Dens-Deck Prime

2.3 INSULATION:

- A. Isocyanurate – Tapered rigid cellular polyisocyanurate boards with fibrous felt/fiberglass mat facers, sloping 1/2 inch per foot, match existing thickness, minimum compressive strength 20 psi, meeting ASTM C1289-01, Type II, Class I, Grade 2.
 1. Tapered insulation sloping (match existing slope), minimum starting thickness as shown on the roof plan.
 2. Crickets sloping 1/4 inch per foot.
 3. At repairs to existing building match thickness of existing insulation.
 4. Product: Firestone “ISO 95+ Isocyanurate Insulation” or approved equal.

2.4 ACCESSORY MATERIALS

- A. Wood Nailers: PS 20 dimension lumber, Structural Grade No. 2 or better Southern Pine, Douglas Fir; or PS 1, APA Exterior Grade plywood; pressure preservative treated.
 1. Thickness: Same as thickness of roof insulation.
- B. Cant Strips and Tapered Edge Strips: 45 degree face slope and minimum 5 inch (127 mm) face dimension; provide at all angle changes between vertical and horizontal planes that exceed 45 degrees.
- C. Cover Board Adhesive:
 1. Two component low rise polyurethane foam adhesive, installed with a mixing extruding Pace-Cart dispenser, or with a pleural heated foam rig - Firestone I.S.O. Adhesive intended for application at the temperatures that will be encountered.
 2. Do not use twin cartridge “caulking gun” adhesive except on very small isolated sections of roof.

PART 3 INSTALLATION

3.1 GENERAL

- A. Construct the new roofing system in a watertight, workmanlike manner, meeting the guarantee requirements specified herein; in strict accordance with the drawings and in conformance with the Manufacturer's requirements, except as enhanced in this specification.
- B. Perform work at areas with roof mounted mechanical equipment, so the work coincides with equipment shutdown periods and does not affect building occupants. Temporarily cover and protect equipment openings, and windows adjoining the work area, with 6 mil fire retardant polyethylene, so dirt, dust and odors do not enter the equipment or building. Remove covers at the end of each workday, and as soon as roof work is complete.
- C. Clean the surface on which roofing system components will be applied, of all laitance, dirt, oil, grease or other foreign matter which would in any way affect the quality of the installation.
- D. Install roof system components on dry surfaces only. Do not install any items when weather conditions and outside temperatures are not suitable in accordance with the Manufacturer's recommendations.
- E. Complete all work in sequence as quickly as possible so that as small an area as practicable is in the process of construction at any one time. Complete the entire area of work begun each day, the same day, and make all exposed edges watertight at the end of each day's work.

3.2 SUBSTRATE INSPECTION

- A. Remove portions of existing roofing, insulation, and flashings, and carefully check the existing deck and new roof substrate. To be an acceptable surface for the new roofing system, the deck and substrate shall be well secured to the underlying structure, dry and not otherwise deteriorated.
- B. Immediately notify the Architect and Owner by telephone and in writing if defects in the substrate are discovered.
- C. Maintain the building watertight in the interim, but do not install new insulation or roofing until substrate defects have been corrected.

3.3 NEW TO EXISTING INTERFACE

- A. Remove and replace portions of existing roofing at the construction interface between new construction and existing roof areas.
 - 1. Install new isocyanurate insulation, mechanically fastened, to match existing insulation thickness and to maintain the slope of the existing insulation.
 - 2. Install 60 mil. fully adhered EPDM membrane to lap a minimum of 12 inches onto existing EPDM membrane.

3.4 PREPARATION

- A. Remove all of the existing roof system down to the roof deck including all existing composition base flashings. Dispose of all materials properly. Perform asbestos removal in accordance with federal, state and local regulations and dispose of waste in legal manner.
 - 1. At penetrations, remove all existing flashings, including lead, asphalt, mastic, etc.
 - 2. At walls, curbs, and other vertical and sloped surfaces, remove loose and unsecured flashings; remove mineral surfaced and coated flashings; remove excessive asphalt to provide a smooth, sound surface for new flashings.
- B. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- C. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
MODIFICATIONS TO EXISTING ROOFING

- D. Fill all surface voids in the immediate substrate that are greater than 1/4 inch (6 mm) wide with fill material acceptable insulation to membrane manufacturer.
- E. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

3.5 INSULATION AND COVER BOARD

- A. Install tapered insulation and crickets, neatly cut at all miters and transitions.
 - 1. Do not lace corner boards.
 - 2. Install the crickets under the new insulation
- B. Install insulation with joints offset between rows and layers a minimum of 12 inches. Cut insulation to fit neatly at penetrations and joints. Fill any gap which is greater than 1/4 inch.
- C. Fasten new and replacement layers of insulation with screws and discs which penetrate through the deck a minimum of 3/4 inch and a maximum of 1-1/2 inches.
 - 1. Provide number of fasteners as recommended by the manufacturer or the equivalent of:
 - a. Install 16 fasteners per 4 by 8 foot insulation board in the field of the roof.
 - b. Install 28 fasteners per 4 by 8 foot insulation board in 12 foot wide perimeter zones.
 - c. Install 32 fasteners per 4 by 8 foot insulation board in 12 foot square corner zones.
 - 2. Carefully choose the length and position of each screw to ensure the screws do not protrude through the underside of the deck where visible inside the school.
- D. Install gypsum cover board over the insulation with joints offset between rows and the insulation a minimum of 12 inches. Cut gypsum cover board to fit neatly at penetrations and joints. Fill any gap which is greater than 1/4 inch.
- E. Install all layers of insulation on deck areas and the gypsum cover board, in low rise polyurethane foam adhesive applied in accordance with the Manufacturer's recommendations and to achieve the specified minimum uplift resistance.
 - 1. Install 1/2 inch diameter adhesive beads spaced 12 inches on center in the field of the roof.
 - 2. Install 1/2 inch diameter adhesive beads spaced 6 inches on center in 12 foot wide perimeter zones.
 - 3. Install 1/2 inch diameter adhesive beads spaced 4 inches on center in 12 foot square corner zones.

3.6 VAPOR RETARDER

- A. Before installing insulation install vapor retarder directly over the deck to match existing, if present.
- B. Ensure that all penetrations and edge conditions are sealed to prevent moisture and air drive into the roofing system.

3.7 SINGLE-PLY MEMBRANE INSTALLATION

- A. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- B. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- C. Fully adhere EPDM to the substrate with bonding adhesive, on all roof areas except the terrace courtyard.
 - 1. Allow contact bonding adhesive to dry to the touch before joining the EPDM to the substrate. Roll the EPDM onto the bonding adhesive and immediately rub it vigorously with a soft bristle broom to ensure complete adhesion.
 - 2. Do not punch holes in cans of adhesive and use them in a "Better Spreader" without first opening the cans to mix them.
 - 3. Replace used roller covers each day; discard covers after each days use.
 - 4. Allow bonding adhesive to dry to the touch before joining the EPDM to the substrate.
 - 5. Allow bonding adhesive to dry to the touch before joining the EPDM to the substrate.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
MODIFICATIONS TO EXISTING ROOFING

- D. Roofing installed over improperly applied adhesive or with adhesive that wasn't stirred, and roofing installed with blisters, ridges, mole runs and similar deficiencies shall be removed and replaced at the Contractor's expense
- E. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches (1:6) using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 - 1. Exceptions: Round pipe penetrations less than 18 inches (460 mm) in diameter and square penetrations less than 4 inches (200 mm) square.
 - 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

3.8 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- B. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; high above membrane surface or as shown on drawings.
 - 1. Use the longest practical flashing pieces.
 - 2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
 - 3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 - 4. Provide termination directly to the vertical substrate as shown on roof drawings.
- C. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
 - 1. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
 - 2. Structural Steel Tubing: If corner radii are greater than 1/4 inch (6 mm) and longest side of tube does not exceed 12 inches (305 mm), flash as for pipes; otherwise, provide a standard curb with flashing.

3.9 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

3.10 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.11 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHINGS AND SPECIALTIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the schedules, keynotes, drawings, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:
 - 1. Sheet metal work that is compatible with the roofing systems specified, including cap and through wall flashings, hook strips, fascia, drip edges, gravel stops, factory fabricated roof edge systems, batten seam panels and caps, and miscellaneous flashings.

1.3 RELATED DOCUMENTS

- A. Section 06 1010 - Roof Related Rough Carpentry.
- B. Section 07 5010 - Modifications to Existing Roofing.

1.4 CODE APPROVAL REQUIREMENTS

- A. Fabricate and install roof perimeter flashings that comply with the NY State Uniform Fire Prevention and Building Code and with ANSI/SPRI ES-1 "Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems" requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. A firm (Installer) with at least 5 continuous years experience performing sheet metal work similar to that required for this project, employing personnel skilled in the work specified.
 - a. Installer shall be approved by the manufacturer of the existing warranty.
 - 2. The Installer shall directly employ the personnel performing the work of this section.
 - 3. The Installer shall have a full time supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - a. Submit the supervisor's resume upon request.
 - 4. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within a fifty mile radius of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. The Installer shall provide the reference list prior to contract award if requested.
- B. Material Quality:
 - 1. Obtain each product from a single Manufacturer which has manufactured the same product in the United States of America for not less than 5 continuous years.
 - 2. Obtain copper and pre-finished sheet metal items from the same mill run to maintain consistent color hue and surface finish
 - 3. Obtain material from manufacturer maintaining warranty.
- C. Pre-Construction Conference: Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
 - 1. How the building will be kept watertight as work progresses.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SHEET METAL FLASHINGS AND SPECIALTIES

2. How sheet metal work will be coordinated with the installation of the vapor barrier, thermal barrier, insulation, cover board, roofing, flashings, roof accessories and other items to provide a watertight installation.
3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
4. The condition of the substrate, curbs, penetrations and other preparatory work needed.
5. Incomplete submittals; note that progress payments will not be processed until all submittals are received and approved.
6. The construction schedule, weather forecast, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
7. A schedule for Manufacturer and Owner's representative and Architect/Engineer inspections.

1.6 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work:
 1. A pre-work site and building inspection report with photos to document conditions before any other work starts on site.
 2. Manufacturer's technical literature for all materials.
 3. Test reports and certifications substantiating compliance with specification requirements if requested by the Owner's Representative and Architect.
 4. Shop drawings or 2 foot long samples of each sheet metal item, to show how it will fit on adjoining masonry and wood blocking assemblies, and with the roof, stripping, and flashings.
 5. 6 inch square pieces of each type of sheet metal to show surface finish, texture and color.
 6. Sample of the Contractor's guarantee form.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building to the Owner and Owner's Representative'
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers.
- B. Cover all stored materials with watertight tarpaulins installed immediately upon delivery.
- C. Do not overload the structure when storing materials on the roof.
- D. Protect existing and new roof surfaces where material and equipment is placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.8 GUARANTEE

- A. A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:
 1. Defects include but are not limited to the following: peeling paint, leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, and undue expansion.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SHEET METAL FLASHINGS AND SPECIALTIES

2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect guaranteed repairs.
 4. Guarantee coverage shall have no dollar limit.
- B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee coverage shall take affect no more than 30 days before the completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee

PART 2 PRODUCTS

2.1 MATERIALS

- A. Zinc-Tin coated copper: copper sheet, coated on both sides, with a smooth uniform coating of zinc and tin, base metal weight 16 ounces per square foot, cold rolled temper, available as Freedom Gray Copper by Revere.
- B. Solder: 50-50 tin and lead for plain copper, supplied in one pound bars with the alloy mixture stamped into the bar by the Manufacturer.
- C. Flux: Water-Soluble Liquid Flux, Kester #3345 for iron soldering of brass and copper.
- D. Fasteners: Stainless steel, or to match the sheet metal being fastened.
- E. Glass Cloth: Open mesh glass fabric coated on each side with plasticized asphalt.
1. Produce: Karnak Corporation.
- F. Asphalt Cement: Federal Specifications SS_C153B, Type 1, asbestos free grade.
- G. Sealant: High performance, solvent free, formulated and moisture curing silyl-terminated polyether sealant, ASTM C-920, Type S, Grade NS, Class 25, NovaLink construction sealant by ChemLink, color as selected.
- H. Fabricate each unit in shop to the greatest extent possible.

PART 3 EXECUTION

3.1 GENERAL

- A. Accurately reproduce the details and design shown, and form profiles, bends and intersections, sharp, true and even. Fabricate sheet metal in the shop whenever possible, and form joints, laps, splices and connections to shed water and condensation in the direction of flow.
- B. Provide any miscellaneous flashing and sheet metal work not shown on the drawings but otherwise needed to leave the project complete and entirely watertight, neatly and carefully executed in a thorough and workmanlike manner.

3.2 INSPECTION

- A. Examine surfaces to receive work of this section and report any defects to the Owner. Commencement of work will be construed as complete acceptance of surfaces.

3.3 INSTALLATION

- A. Fabricate and install copper work in accordance with the current edition of "Copper and Common Sense" as published by the Revere Copper and Brass Company, unless otherwise indicated.
1. Form all joints, except loose locked sealant filled expansion joints, to overlap 2 inches.
 2. Secure the joints with rivets spaced 1 inch on center positioned about 1/2 inch from the top edge of the joint, then sweat solder the joint.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SHEET METAL FLASHINGS AND SPECIALTIES

3. Use solder only to fill and seal the joint, not for mechanical strength. Form soldered joints continuous, strong and free from defects, with well heated soldering irons. Do not use open flame torches for soldering.
 4. Clean soldered joints daily, immediately after soldering, by washing them with soap and water applied with a soft bristle brush, then rinsing with clear water.
- B. Securely fasten and anchor all work, and make provisions for thermal expansion. Submit details of expansion joints for approval. Install fasteners through one edge of metal only, use a hook strip on the other edge.
- C. Use stainless steel pin Zamac type nail-in fasteners, or stainless steel screws and washers with neoprene inserts where fasteners will be exposed.

3.4 DRIP EDGES

- A. Fabricate drip edges to extend 1-1/2 inches past the roof edge, and turn down to ensure water cannot track back and run down the fascia. Secure the drip edge with roofing nails along the top edge, spaced 4 inches apart along the raw metal edge. Form joints in the drip edge with 6 inch wide concealed under plates which duplicate the profile of the drip edge. Set the underplates in a full bed of sealant.

3.5 HOOK STRIPS

- A. Form continuous hook strips with locks that engage the superimposed trim piece a minimum of 3/4 inch, and to cover the entire underside edge of the wood blocking and neatly extend to the building wall.
- B. Fasten hook strips along their bottom edge, just above the 45 degree bend, with nails spaced 4 inches on center into underlying wood blocking; Zamac type nail-in type fasteners spaced 8 inches on center into masonry surfaces, or screws spaced 8 inches on-center into sheet metal surfaces.

3.6 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Conduct an inspection of the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner's Representative will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leakage or damage which was not documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site presents a neat, orderly and workmanlike appearance. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

**SECTION 07 8400
FIRESTOPPING**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 RELATED REQUIREMENTS

- A. Section 01 7000 - Execution: Cutting and patching.

1.3 REFERENCE STANDARDS

- A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2016a.
- B. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).
- C. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems; 2015.
- D. ASTM E2837 - Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies; 2013 (Reapproved 2017).
- E. FM (AG) - FM Approval Guide; current edition.
- F. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems; Current Edition, Including All Revisions.
- G. UL (FRD) - Fire Resistance Directory; Current Edition.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance ratings, and limitations.

1.5 QUALITY ASSURANCE

- A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
 - 1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years experience.
- C. Installer Qualifications: Company specializing in performing the work of this section and:
 - 1. Verification of minimum three years experience installing work of this type.

1.6 MOCK-UP

- A. Install one firestopping assembly representative of each fire rating design required on project.
 - 1. Where one design may be used for different penetrating items or in different wall constructions, install one assembly for each different combination.
- B. If accepted, mock-up may remain as part of this work. Remove and replace mock-ups not accepted.

1.7 FIELD CONDITIONS

- A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.
- B. Provide ventilation in areas where solvent-cured materials are being installed.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Firestopping Materials: Any materials meeting requirements.
- B. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.

2.2 FIRESTOPPING ASSEMBLY REQUIREMENTS

- A. Perimeter Fire Containment Firestopping: Use system that has been tested according to ASTM E2307 to have fire resistance F Rating equal to required fire rating of floor assembly.
- B. Head-of-Wall (HW) Joint System Firestopping at Joints Between Fire-Rated Wall Assemblies and Non-Rated Horizontal Assemblies: Use system that has been tested according to ASTM E2837 to have fire resistance F Rating equal to required fire rating of wall assembly.
- C. Floor-to-Floor (FF), Floor-to-Wall (FW), Head-of-Wall (HW), and Wall-to-Wall (WW) Joints, Except Perimeter, Where Both Are Fire-Rated: Use system that has been tested according to ASTM E1966 or UL 2079 to have fire resistance F Rating equal to required fire rating of the assembly in which the joint occurs.
- D. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.

2.3 FIRESTOPPING FOR FLOOR-TO-FLOOR, FLOOR-TO-WALL, HEAD-OF-WALL, AND WALL-TO-WALL JOINTS

- A. Concrete and Concrete Masonry Walls and Floors:
 - 1. Floor-to-Floor Joints:
 - a. 2 Hour Construction: UL System FF-D-1013; Hilti CFS-SP WB Firestop Joint Spray and CP 672.
- B. Gypsum Board Walls:
 - 1. Wall-to-Wall Joints That Have Movement Capabilities (Dynamic-D):
 - a. 1 Hour Construction: UL System WW-D-0067; Hilti CP 606 Flexible Firestop Sealant.
 - 2. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Parallel to Ribs:
 - a. 1 Hour Construction: UL System HW-D-0049; Hilti CFS-SP WB Firestop Joint Spray and CP 672.

2.4 FIRESTOPPING PENETRATIONS THROUGH GYPSUM BOARD WALLS

- A. Blank Openings:
 - 1. 1 Hour Construction: UL System W-L-3334; Hilti CP 653 Speed Sleeve.
- B. Penetrations By:
 - 1. Multiple Penetrations in Large Openings:
 - 2. Uninsulated Metallic Pipe, Conduit, and Tubing:
 - a. 1 Hour Construction: UL System W-L-1164; Hilti FS-ONE MAX Intumescent Firestop Sealant.
 - 3. Uninsulated Non-Metallic Pipe, Conduit, and Tubing:
 - a. 1 Hour Construction: UL System W-L-2128; Hilti FS-ONE MAX Intumescent Firestop Sealant.
 - 4. Electrical Cables Not In Conduit:
 - 5. Cable Trays with Electrical Cables:
 - a. 1 Hour Construction: UL System W-L-4011; Hilti CFS-BL Firestop Block.
 - b. 1 Hour Construction: UL System W-L-4060; Hilti FS-ONE MAX Intumescent Firestop Sealant.
 - 6. Insulated Pipes:

- a. 1 Hour Construction: UL System W-L-5028; Hilti FS-ONE MAX Intumescent Firestop Sealant.
- 7. HVAC Ducts, Insulated:
 - a. 1 Hour Construction: UL System W-L-7156; Hilti FS-ONE MAX Intumescent Firestop Sealant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify openings are ready to receive the work of this section.

3.2 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.
- B. Remove incompatible materials that could adversely affect bond.

3.3 INSTALLATION

- A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.
- B. Do not cover installed firestopping until inspected by authorities having jurisdiction.
- C. Install labeling required by code.

3.4 CLEANING

- A. Clean adjacent surfaces of firestopping materials.

3.5 PROTECTION

- A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
FIRESTOPPING

**SECTION 07 9200
JOINT SEALANTS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Joint backings and accessories.

1.3 RELATED REQUIREMENTS

- A. Section 07 8400 - Firestopping.

1.4 REFERENCE STANDARDS

- A. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012 (Reapproved 2017).
- B. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.

1.6 QUALITY ASSURANCE

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

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.

2.2 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. Other joints indicated below.
- B. Interior Vertical Joints: Use non-sag acrylic latex sealant, unless otherwise indicated.

2.3 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products with levels of volatile organic compound (VOC) content as indicated in Section 01 6116.

2.4 NONSAG JOINT SEALANTS

- A. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-hardening, non-sagging; not intended for exterior use.
 - 1. Color: To be selected by Architect from manufacturer's standard range.
 - 2. Grade: ASTM C834; Grade Minus 18 Degrees C (0 Degrees F).

3. Manufacturers:
 - a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant: www.pecora.com.
 - b. Sherwin-Williams Company; 850A Acrylic Latex Caulk: www.sherwin-williams.com.
4. Applications: Use for:
 - a. Use for all interior joints..
5. Substitutions: 01 2500 - Substitution Procedures

2.5 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
- B. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- C. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.2 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- C. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION

**SECTION 09 9123
PAINTING**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Sections, apply to this Section.

1.2 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. Concrete masonry units (CMU), brick, and stone.
 - 2. Concrete floors.
 - 3. Dry Fall Sweep up Spray. Ceilings (Contract #1 Alternate 1)
 - 4. Metal.

1.3 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 05 5000 - Metal Fabrications.

1.4 DEFINITIONS

- A. Comply with ASTM D16 for interpretation of terms used in this section.

1.5 REFERENCE STANDARDS

- A. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2016.
- B. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; Current Edition.
- C. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).
- D. SSPC-SP 2 - Hand Tool Cleaning; 1982, with Editorial Revision (2004).
- E. SSPC-SP 3 - Power Tool Cleaning; 1982, with Editorial Revision (2004).

1.6 SUBMITTALS

- A. See Section 01 3000 - 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.
 - 4. Manufacturer's installation instructions.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
 - 2. Where sheen is not specified, discuss sheen options with Fuller and D'Angelo, P.C. before preparing samples, to eliminate sheens definitely not required.
- D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
- E. Manufacturer's Instructions: Indicate special surface preparation procedures.

- F. Maintenance Data: Submit data including product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, and touch-up procedures.
- G. Maintenance Materials: Furnish the following for Owner's Representative's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Finish Materials: 5 gallons (____ L) of each type; from the same product run, store where directed.
 - 3. Label each container with color and type in addition to the manufacturer's label.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum 10 years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years experience.

1.8 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, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint 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.

1.9 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. Minimum Application Temperatures for Paints: 50 degrees F (10 degrees C) for interiors unless required otherwise by manufacturer's instructions.
- D. 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 from the same manufacturer.
- B. Paints:
 - 1. Base Manufacturer: Sherwin-Williams Company: www.sherwin-williams.com.
 - 2. Primer Sealers: Same manufacturer as top coats.
- C. Substitutions: 01 2500 - Substitution Procedures..

2.2 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
 - 1. 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.
 - 2. 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.
 - 3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.

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 01 6116.
- 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 Fuller and D'Angelo Architects and Planners from the manufacturer's full line.
- E. Colors: As indicated in Finish Schedule.

2.3 PAINT SYSTEMS

- A. Concrete/Masonry, Opaque, Latex, Three coats: (New surfaces)
1. Block Filler: One Coat Spreading rate recommended by manufacturer to achieve a dry film thickness of 16 mils wet; 7.7 mils dry
 - a. Sherwin Williams Super PrepRite Block Filler Craft No. 285.
 2. 1st & 2nd Coat: S-W SuperPaint Zero VOC, Odor Eliminating, Formaldehyde reducing Technology, A86 Series (4.0 mils wet, 1.8 mils dry per coat).
 3. Use all all new walls.
- B. Concrete/Masonry, Opaque, Latex, 2 coat: (Existing surfaces)
1. Latex Primer Sealer: One Coat latex enamel spreading rate recommended by manufacturer to achieve a dry film thickness of 4 mils wet; 1.3 mils dry..
 - a. Sherwin Williams Multi-Purpose Interior Exterior Latex Primer EW
 2. Topcoat: Semi-gloss: One coat of latex enamel.
 - a. S-W SuperPaint Zero VOC, Odor Eliminating, Formaldehyde reducing Technology, A86 Series (4.0 mils wet, 1.8 mils dry per coat).
 3. Use for all existing walls.
- C. Ferrous metals, Primed, Acrylic Latex, 2 coat:
1. Touch up with latex primer.
 2. Two Coats Acrylic Latex spreading rate recommended by manufacturer to achieve a dry film thickness of 4 mils wet; 1.3 mils dry to 5.6 mils:
 - a. Sherwin Williams ProMar 400 Zero VOC Semi-Gloss
 - b. Color: Match wire mesh.
- D. Galvanized Metals Alkyd, 3 Coat:
1. One coat Sherwin Williams Pro-Cryl Universal Primer.
 2. Two coats of alkyd enamel :
 - a. Intermediate coat: Alkyd enamel applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 3.0 to 5.6.
 - a) Sherwin Williams Direct To
 - b. Finish coat: Alkyd enamel applied at spreading rate recommended by manufacturer to achieve a dry film thickness of 3.0 to 5.6.
 - a) Sherwin Williams Direct To Metal Alkyd Enamel Semi-Gloss
 - b) Color: As indicated on drawings
- E. Concrete Floor Surface, Acrylic (Existing surfaces)
1. Latex Systems:
 - a. Semi-Gloss Finish:
 - a) 1st Coat: S-W Tread-Plex Acrylic Floor Coating, B90 Series.

- b) 2nd Coat: S-W Tread-Plex Acrylic Floor Coating, B90 Series. (3.5 mils wet, 1.5 mils dry, per coat).
- F. Concrete: Ceilings (Existing surfaces)
 - 1. Dryfall Waterborne Topcoat:
 - a. Flat Finish:
 - a) 1st Coat: S-W Pro Industrial Waterborne Acrylic Dryfall, B42-181 Series

2.4 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.

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 any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Fuller and D'Angelo Architects and Planners of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. 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. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
 - 2. Concrete Floors and Traffic Surfaces: 8 percent.

3.2 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application. Refer to Allowance #5 for cleaning prior to start of construction.
- B. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- C. 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.
- D. Cleaning Existing Walls: Remove all loose paint, plaster and other coatings.
 - 1. Working from bottom to top, apply prepared cleaning solution to a dry surface.
 - 2. Leave solution on the surface for 5-20 minutes. If solution begins to dry, reapply.
 - 3. Gently scrub heavily soiled areas.
 - 4. Rinse thoroughly with clean water with by masonry washing equipment generating 400-1000 psi with a water flow rate of 6-8 gallons per minute delivered through a 15-45 degree fan spray tip.
 - 5. Apply after wash. Let the Afterwash stay on the surface for three to five minutes.
 - 6. Pressure rinse from the bottom of the treated area to the top.

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

3.5 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PAINTING

SECTION 22 0100

GENERAL CONDITIONS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section.

1.1 GENERAL CONDITIONS

- A. Before submitting a proposal, Bidders shall examine all Drawings related to this work and shall become fully informed as to the extent and character of the work required and its relation to the other work in the building.
- B. Before commencing work, the Contractor will examine all conditions of the project upon which his work is in any way dependent for perfect workmanship according to the intent of this Specification. No "waiver of responsibility" for incomplete, inadequate or defective adjoining work will be considered unless notice has been filed by this Contractor and acceded to by the Owner's representative in writing before the Contractor begins any part of the work.
- C. The Contractor will pay for all licenses, permits and inspection fees required by civil authorities having jurisdiction. Comply with all laws, ordinances, regulations, fire underwriter's requirements applicable to work herein specified without additional expense to the Owner. (Also local building code requirements.).
- D. It is specifically intended that anything (whether material or labor) which is usually furnished as a part of such equipment as is hereinafter called for (and which is necessary for the completion and proper operation) shall be furnished as part of this Contract without additional cost the Owner, whether or not shown in detail on the Drawings or described in the Specifications.
- E. When Drawings and Specifications conflict or there is a question as to the proper intent of this Contract, the Contractor shall assume the more expensive method in his pricing. All questions shall be directed to the Architect/Engineer in writing only and only up to ten (10) days prior to bidding.
- F. The Drawings indicate the general runs of the piping, ductwork, etc. systems and the location of equipment and apparatus, but is shall be understood that the right is reserved by the Architect/Engineer to change the location of piping work, ductwork, equipment and apparatus to a reasonable extent as building conditions may dictate, prior to their installation without extra cost to the Owner.
- G. Small scale drilling through walls and floors which may contain asbestos shall be performed by a person with a "restricted asbestos handler allied trades certificate" and shall have a copy of it in his possession at all times while working on the project.
- H. Any changes from the Drawings and Specifications and any interpretation thereof shall have the prior approval of the Architect/Engineer. The Contractor shall submit in writing, at the time of signing the Contract, any items of necessary labor and materials, which, in his opinion, are lacking in requirements of the Drawings and Specifications to insure a complete job in all respects. No consideration will be granted to alleged misunderstanding of materials to be furnished, work to be done, or conditions to be complied with, it being understood that the tender of a proposal carries with it the agreement to all items and conditions referred to herein, or indicated on the accompanying Drawings.

END OF SECTION

SECTION 22 0125

SCOPE OF WORK

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section.

1.1 SCOPE OF WORK

- A. The work under this section includes all labor, materials, equipment, tools, transportation, cutting and patching, excavation and backfill and the performance of all work necessary and required for the furnishing and installation complete of all Plumbing and Drainage work as shown on Contract Drawings, as specified herein and as otherwise required by job conditions or reasonably implied, including but not necessarily limited to the following:
1. Provide complete new and altered sanitary, storm and vent piping from all new plumbing fixtures connecting to existing sanitary and vent system.
 2. Provide complete new and altered hot and cold water piping to all new plumbing fixtures, equipment, etc. as indicated.
 3. Provide new and altered gas piping and removal of existing as indicated.
 4. Provide all new plumbing fixtures where indicated, complete including traps, stops, drains, strainers, tailpieces, faucets, escutcheons, etc.
 5. Provide complete new piping and final connections to equipment furnished under other Divisions.
 6. Provide all demolition, removal disconnecting, capping, sealing of all existing plumbing piping, apparatus, equipment, fixtures, specialties, accessories, etc. which are not included or incorporated in the new layout.
 7. Provide all required temporary connections to maintain all plumbing services without interruption.
 8. Pipe insulation.
 9. Tests and adjustments.
 10. This Contractor shall obtain all permits, bonds, approvals, etc. at no additional cost to the Owner.
 11. This Contractor shall provide shop drawings for all plumbing fixtures, piping, valves, insulation, equipment, etc.
 12. For Cutting and Patching refer to front end of spec.
 13. For Excavation and Backfill refer to front end of spec.
 14. Furnish minimum 18" x 18" access doors for all valves, cleanouts, etc. in all inaccessible walls, ceilings, etc. Installation by General Contractor.
 15. Fire stopping per FM/UL and NFPA. Refer to Division 1.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SCOPE OF WORK

- B. Coordination Drawings (if applicable): Attention is directed to Division 1 for coordination drawing requirements for this project. These drawings are critical to the proper execution of the work and failure to honor these requirements may become the basis for denial of any and all claims for either or both “time” and “money”.

1.2 ALTERATION WORK

- A. All equipment, piping, plumbing, fixtures, etc. to be removed, shall be disposed of or salvaged as directed by the Owner. They shall not be removed from the premises without Owners approval.
- B. All piping to be removed shall be properly plugged or capped so that upon completion of all new work, all abandoned piping shall be concealed in finished areas.
- C. No dead ends shall be left on any piping upon completion of job.
- D. The existing systems shall be left in perfect working order upon completion of all new work.
- E. Location and sizes of existing piping are approximate. Exact sizes and locations of all existing piping shall be verified on the job.
- F. All removals shall be removed from the site.

END OF SECTION

SECTION 22 0130

WATER SUPPLY SYSTEM

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. Furnish and install a complete cold-water distribution system to supply water to all new fixtures, water consuming equipment, and valved outlets for the use of other trades and connect to existing piping.
- B. The water supply system shall be complete with all pipe, fittings, valves, mains, risers, branches, shock absorbers, air chambers, hangers, anchors, expansion loops, connections to existing piping, covering, tests, etc. all as shown on the Drawings, as hereinafter specified.
- C. Furnish and install a complete hot water distribution system to supply water to all new fixtures and equipment requiring heated water.

PART 2 - PRODUCTS

2.1 PIPING, FITTINGS AND MATERIALS

- A. All components of water supply system shall confirm to all "No Lead" requirements including NSF/ANSI-372.
- B. The domestic water systems shall be of the following material and shall be in accordance with the latest ASTM and ASME Standards.
- C. Domestic water piping within the buildings shall be seamless drawn or extruded tubing type "L" copper. Both shall be of Chase, Anaconda, Revere, and approved equal, hard temper ASTM B88 with solder joint sweat end fittings. Fittings for use with copper tubing shall be cast brass of Muellers "Streamlin" pattern or approved equal.
- D. Joints for copper tubing shall be made with 95-5 (lead and antimony free) solder. Flanges where required shall be cast brass. Provide dielectric adapters between ferrous and non-ferrous pipe joints.

2.2 VALVES

- A. All shut-off valves 2" and smaller shall be ball valves equal to Apollo 70 Series or Milwaukee BA100 Series Valve. Bronze body with chrome plated trim
- B. This Contractor shall furnish all valves as indicated on the Drawings, or as may be required for the proper control of the pipe lines installed under this Specification, so that any fixture, line or piece of apparatus may be cut out for repair without interference or interruption of the service to the rest of the Facility.
- C. All domestic water valves shall have a minimum working pressure of 125 psig, steam rated unless otherwise noted on the Drawings or specified herein. All valves shall be of one manufacture as manufactured by Milwaukee Valve or Hammond.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
WATER SUPPLY SYSTEM

- D. All gate valves within the buildings shall be wedge gauge valves with painted iron wheel handles, shall have gland followers in stuffing boxes, and shall be so constructed that they may be repacked while open and under pressure. All valves shall have the name of the manufacturer and working pressure cast or stamped thereon.
- E. All gate valves shall be all bronze with sweat or screwed joint ends as required by the piping system in which they are installed.
- F. Globe valves shall be of all bronze with composition disc, threaded or sweat joint ends as required by piping system in which they are installed.
- G. Check valves shall be all bronze swing check type with threaded or sweat joint ends. Check valves 4 inch and larger shall be iron body bronze mountings and shall be provided with screwed or flanged joint ends as required by piping system in which they are installed.
- H. Drain valves, at risers and at low points, shall be 3/4-inch heavy cast brass with composition washers with male thread for hose connections.

2.3 SHOCK ABSORBERS

- A. Shock absorbers shall be similar and equal to J.R. Smith 5000 series or Zurn Z1700 series with stainless steel pressurized shell sized in accordance with P.D.I. Bulletin WH-201.
- B. Provide shock absorbers on all fixtures and equipment having quick closing valves whether or not indicated on the Drawings.
- C. Provide access doors where shock absorbers are concealed.

2.4 VACUUM BREAKERS

- A. Provide vacuum breakers on water supply piping to each fixture and equipment with submerged inlets, and on faucets and outlets, within the facility to which hose can be, or is attached forming a submerged inlet.
- B. Set vacuum breakers in exposed readily accessible locations at least four inches above floor rim level of fixture, or high point of equipment.
- C. Vacuum breakers shall be chrome-plated brass. "Watts" or other approved.
- D. Vacuum breakers under constant pressure shall be of the continuous pressure type No. 9 "Watts" or Wilkins BFP-8CH or approved equal.

2.5 EXPANSION JOINTS, ANCHORS AND GUIDES

- A. The entire piping installation shall be installed with adequate provision for expansion. No rigid connections will be permitted. Refer to Drawings for locations of expansion joints and related guides and anchors. The joints, guides and anchors shall be as manufactured by Flexonics Products, Metraflex or Flex-weld.
- B. Branches shall be of sufficient length and have three elbow swings to allow for pipe expansion.
- C. Any breaks in the piping within the guarantee period due to improper provision for expansion must be replaced at the expense of this Contractor, and the conditions corrected to prevent future recurrence.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
WATER SUPPLY SYSTEM

- D. Any damages to surrounding areas and equipment due to this failure shall also be repaired and paid for at the expense of this Contractor.
- E. Joints to have 150 psi rating, ANSI-B16.5 with liner and cover.

2.6 STERILIZATION

- A. The entire domestic water piping system shall be thoroughly sterilized with chlorine before acceptance for domestic operation.
- B. The amount of chlorine applied shall be such as to provide a dosage of not less than 50 parts per million for 24 hours or 200 p.p.m. for one hour. The chlorinating material shall be either liquid chlorine or sodium hypochlorite solution and shall be introduced into the system and drawn to all points of the system. If possible to do so, the lines shall be thoroughly flushed before introduction of the chlorinating material. After a contact period of not less than 24 hours, the system shall be flushed with clean water until the residual content is not greater than 0.2 parts per million. All valves in the lines being sterilized shall be opened and closed several times during the contact period.
- C. Sterilization and tests for purity of water in the entire piping system shall be performed by the Contractor through an approved independent testing laboratory and a certificate shall be furnished to the Architect certifying the quality of purity.
- D. Per ANSI/AWWA Standard C651-05.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. It is the intent that each part of the plumbing system shall be complete in all details and water lines provided with all control valves as indicated on Drawings, or as may be required for the proper control of the pipe lines under this Specification so that any fixture, line or piece of apparatus may be cut out for repair without interference or interruption of the service to the rest of the facility.
- B. This Contractor shall examine carefully the Architectural Drawings in detail and familiarize himself with all conditions relative to the installation of piping, particularly where same is concealed behind furring or in hung ceilings.
- C. In no case shall this Contractor permit his pipes to be exposed beyond finished walls or ceilings unless specifically shown on Drawings. He shall consult with the Contractors of other trades in the building and install his piping in such a way as to least interfere with the installation of other trades.
- D. The water piping shall all be installed so as to drain to a valve provided by this Contractor and branches shall not be trapped but shall have continuous pitch. Where necessary to raise or lower mains, the same shall be provided with a drip and shall be properly valved.
- E. Piping shall be installed, whether indicated or not, so as to rise and/or drop to clear any and all conduits, lighting fixtures, ductwork and heating mains to maintain the desired clear heights. This Contractor shall consult with the Contractors of other trades and facilitate the erection of the equipment and piping.
- F. Run piping straight and as direct as possible, in general forming right angles with or parallel to walls or other piping. Risers shall be erected plumb and true.
- G. After cutting, all pipes shall be reamed out to full bore and before erection the inside of all pipes shall be thoroughly cleaned.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
WATER SUPPLY SYSTEM

- H. No piping or work shall be concealed or covered until all required tests have been satisfactorily completed and work has been approved by the Architect.
- I. All materials shall be new and installed in a first-class manner.
- J. In erecting pipe, friction wrenches and vises shall be used exclusively, and any pipe cut, dented or otherwise damaged shall be replaced by this Contractor.
- K. All ferrous to non-ferrous pipe connections shall be made with approved dielectric pipe or flange unions isolating joints to prevent any electrolytic action between dissimilar materials.
- L. Any piece of pipe 6 inches in length or less shall be considered a nipple. All nipples with unthreaded portion 1-1/2 inch and less shall be of weight corresponding to fitting connected. Only shoulder nipples shall be used, close nipples will not be accepted.
- M. Revised water service shall be in accordance with the local water supply department requirements. All water lines are to be protected from freezing. Install new piping for water service below frost line and provide concrete separations when crossing other utilities. Provide concrete thrust mass at changes of pipe direction conforming to authorities having jurisdiction.

END OF SECTION

SECTION 22 0160

SANITARY AND STORM DRAINAGE SYSTEMS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. The work under this section includes all labor, materials, equipment and appliances necessary and required to completely install all drainage systems as required by the Drawings; code and as specified herein, including but not limited to the following:
- B. Complete sanitary drainage and venting systems including connections to the existing sanitary drainage and venting systems.
- C. Piping and final connections for equipment furnished under other Divisions.
- D. Alterations and removals to existing sanitary and vent systems.
- E. Tests.

1.2 QUALITY ASSURANCE

- A. All Cast Iron soil pipe and fittings shall bear the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) and be listed by NSF International.
- B. Hubless Couplings:
Standard, Stainless-Steel Shielded, Couplings: Standard Couplings shall conform to CISPI 310 and ASTM C 1277. Shield Assemblies shall consist of a stainless steel bi-directional corrugated shield; stainless-steel bands and tightening devices; and an ASTM C 564, rubber sleeve with integral center stop. Couplings shall bear the NSF Trademark, and be manufactured in the USA.

PART 2 - PRODUCTS

2.1 PIPING AND FITTING MATERIALS

- A. All indoor underground storm soil, waste and vent piping shall be service weight cast iron with fittings of bell and spigot type. All exterior underground storm soil and waste piping shall be extra heavy cast iron. Each length shall have the size, weight per foot and the manufacturer's name clearly cast or stamped thereon. Weight shall be as defined by the Plumbing Code. Fittings and traps shall be similarly marked and of corresponding weights.
- B. All above ground storm, soil, waste and vent piping and fittings 3" and larger shall be service weight and fittings of bell and spigot type as specified in paragraph above. Above ground waste and vent piping 2" and smaller shall be galvanized steel, fittings on waste piping shall be galvanized cast iron, recessed drainage pattern, fitting on vent piping shall be galvanized cast iron, beaded pattern, screwed joints shall be made up to be perfectly tight without the use of lead or filler of any kind, except oil or graphite. Nipples for galvanized pipe shall be shoulder type. No close nipples shall be permitted.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SANITARY AND STORM DRAINAGE SYSTEMS

- C. Joints shall be made with gasket or hemp or picked oakum and lead, at least 12 oz. of fine soft pig lead shall be used for each inch of diameter pipe used. Lead shall be run in one (1) pouring. All lead shall be pure and soft and of the best quality and shall be sufficiently heated to run joint full at one pouring without hardening. Dross shall not be allowed to accumulate in the melting pot. See 2.1, E. for joint options where permitted.
- D. All galvanized pipe and fittings shall be galvanized with prime western spelter by hot drip process.
- E. The Contractor has the option of using the following types of joints with hubbless cast iron pipe only if approved by the governing agencies. These joints shall be used throughout the project. No mixing of joints shall be permitted.
 - 1. Neoprene gasketed joints similar to Ty-Seal (for above and underground application).
 - 2. Hubbless cast iron pipe with neoprene gaskets and stainless-steel clamps (by Clamp-All or equal) above ground only. All in accordance with Cast Iron Soil and Pipe Institute Standard 301 latest edition. Hangers and supports shall be in accordance with manufacturer's recommendations.
 - 3. Copper DWV system with 50-50 tin antimony solder, DWV with solvent welded or screwed joints meeting CS-270-65.

2.2 CLEANOUTS

- A. Provide easily accessible cleanouts where indicated at base of vertical stacks at ends of horizontal drainage lines and at intervals not exceeding 50 ft.; at each change of direction; on handholes of running traps, and where necessary to make entire drainage system accessible for rodding. Provide at least 18" clearance to permit access to cleanout plugs.
- B. Cleanouts for cast iron pipe shall consist of tarped extra heavy cast iron ferrule caulked into cast iron fittings and extra heavy brass tapered screw plug with solid hexagonal unit. Cleanouts for wrought iron pipe shall consist of extra heavy brass screw plug in drainage fitting.
- C. Cleanouts turning out through walls and up through floors shall be made by long sweep ells or "Y" and 1/8 bends with plugs and face or deck plates to conform to Architectural finish in the room. Where no definite finish is indicated on the Architectural and/or Mechanical Drawings, wall plates shall be chrome plated cast brass and floor plates shall be nickel bronze.
- D. Cleanouts shall be full size at the pipe up to 6" inclusive. On larger size piping 6" size plugs shall be used.
- E. Cleanout fittings in vertical stacks shall consist of tapped tees capable of receiving a rough brass raised head cleanout plug, J.R. Smith S-4730, Zurn Z1445-A-BP or approved equal.
- F. All cleanout plugs shall be brass lubricated with graphite before installation.
- G. Cleanouts occurring in cast iron soil pipe above floor at change of direction of pipe run and at ends of horizontal runs shall be J.R. Smith S-4425, Zurn Z1441-A-BP or approved equal with cast iron ferrule for caulk connection and fitted with a straight threaded tapered bronze plug with raised hex head.
- H. Cleanout deck plates for finished areas shall be similar and equal to J.R. Smith 4020 series, Zurn ZB1400-X or approved equal with cast iron ferrule, scoriated cutoff sections, brass cleanout plus collar with brass bolts for waterproofed slabs. In tile floor areas the cleanout deck plates shall be recessed to tile.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SANITARY AND STORM DRAINAGE SYSTEMS

2.3 FLASHING

- A. Provide 6 lb. lead flashing extending at least 10" beyond edge of all floor drains and vents through roof and all floor sleeves in floors with waterproofing or vapor barriers. Flashing shall be held securely in by clamping devices.
- B. All floor drains shall be provided with flashing rings and 24" square 6 lb. sheet lead flashing, properly flashed into flashing ring of the drain.

2.4 SANITARY DRAINAGE

- A. A complete system of drainage shall be provided as shown on the Drawings. The system shall include all drains, leaders, branches, house drains with all pipe fittings, hangers, anchors, etc. to make a complete sanitary drainage system. The systems shall extend through house drains and terminate as indicated on the Drawings.
- B. Piping shall be sizes as indicated on the Drawings. The sanitary drains shall have a pitch of 1/8" per ft. minimum unless otherwise noted. Branch connections to stacks and house drains shall pitch a minimum of 1/8" per ft.

2.5 PIPING AND FITTINGS

- A. Provide piping of one of the following materials, of weight/class indicated. Provide pipe fittings and accessories of same material and weight/class as pipes, with joining method as indicated.

PART 3 - EXECUTION

3.1 INSTALLATION OF PIPING

- A. The size of soil, waste and vent piping shall be as determined by the State codes, rules and regulations for plumbing and drainage, except where specifically noted to be larger by the Specifications or Drawings and all fixed rules of installation, as set forth in the codes, rules and regulations, shall be followed as part of the Specifications.
- B. This Contractor shall examine carefully the Architectural plans in detail and familiarize himself with all conditions relative to the installation of piping, particularly where same is concealed behind furring or in hung ceilings.
- C. In no case shall this Contractor permit his pipes to be exposed beyond finished plaster lines unless specifically shown on Drawings. He shall consult with the Contractors of other trades in the building and install his piping in such a way as to least interfere with the installation of other trades.
- D. Piping shall be installed, whether indicated or not, so to rise and/or drop to clear any and all conduits, lighting fixtures, ductwork and heating mains to maintain the desired cleat heights. This Contractor shall consult with the Contractors of other trades and facilitate the erection of the equipment and piping.
- E. Run piping straight and as direct as possible in general forming right angles with or parallel to walls or other piping. Risers and stacks shall be erected plumb and true. After cutting, all pipes shall be reamed out to full bore and before erection the inside of all pipes shall be thoroughly cleaned.
- F. No piping or work shall be concealed or covered until all required tests have been satisfactorily completed and work had been approved by the Architect and all other authorities having jurisdiction.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SANITARY AND STORM DRAINAGE SYSTEMS

- G. Branch connections shall be made with "Wye" and long "Tee-Wye" fittings, short 1/4 bends, common offsets and double hubs will not be permitted. Short "Tee-Wye" fittings are to be used in vertical piping only. All fittings shall conform to code requirements.
- H. Cleanouts shall be provided at foot of all stacks, at changes of directions, at the ends of branch runs where shown and as required by code, and shall be terminated as described under cleanouts.
- I. The house drains must be run at a minimum grade of 1/8" per ft. downward in the direction of flow. Wherever possible, a 1/4" per ft. pitch shall be maintained. Branch connections to stacks from fixtures shall pitch 1/4" per ft. where possible. Attention is again called to the necessity of maintaining the ceiling heights established.
- J. Furnish and install complete systems of vent pipes from the various plumbing fixtures and other equipment to which drainage connections are made. Vent pipes shall be connected to the discharge of each trap and shall be carried to a point above the ultimate overflow level of the fixture before connecting with any other vent pipe; in general, this will be approximately 3'-6" above the finished floor. Branches shall be arranged to pitch back to fixtures.
- K. The individual vent pipes shall be collected together in branch vent lines and connected to existing vent connections through roof.
- L. Any existing vents through roof, damaged, or if flashing on roof comes loose while connecting new vent to them shall be repaired and reflashed to the roof as required to maintain waterproofing the satisfaction of the Architect.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
NEW GAS CONNECTIONS AND ASSOCIATED WORK

SECTION 22 0190

NEW GAS CONNECTIONS AND ASSOCIATED WORK

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. Furnish and install a gas piping system to boilers, kitchen, laboratories tabletop gas outlets and other equipment as shown on Drawings.
- B. All new piping shall be schedule 40 steel, standard weight threaded malleable iron fittings for sizes 2-1/2" and smaller. For sizes 3" and larger joints shall be welded.
- C. All work in this section shall comply with NFPA-54.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 TESTING

- A. Gas piping shall be tested with air using an air pump and mercury gauge. Tests shall be made by the Contractor with his equipment when directed by the Owner/Inspector/Construction Manager. Testing shall be done with 100 psig pressure (low pressure side) for a period of one hour and follow Utility Company procedures and all Plumbing Code requirements. Certify and submit written test results to Architect/Engineer. Indicate that system is functioning properly, and has been installed in accordance with NFPA, and all applicable codes.
- B. Contactor is responsible for maintaining gas pressure in existing gas piping to remain in accordance with utility company requirements, whether valving off pilot lights, using bottled gas, etc. Utility fees and re-testing existing piping as required is Contractors responsibility.
- C. Paint all exterior piping with two coats of approved weatherproof yellow paint.

END OF SECTION

SECTION 22 0300

PLUMBING FIXTURES AND EQUIPMENT

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. The work under this section shall consist of furnishing all labor, materials, equipment and appliances necessary and required to completely do all plumbing fixture work, as required by the Drawings and as specified herein, including but not limited to the following: plumbing fixtures, traps, fittings, trimmings, brackets, plates, anchor, chair carriers and supports.
- B. Just before the Owner's taking over the work in the building, this Contractor shall thoroughly clean all fixtures furnished and set under this Contract, leaving every fixture in perfect condition and ready for use.
- C. Submit shop drawings and roughing sheets for all equipment for checking and approval.

PART 2 – PRODUCTS

2.1 PLUMBING FIXTURES AND EQUIPMENT

- A. All fixtures shall be free from imperfections, true as to line angles, curves and color, smooth, watertight, complete in every respect and practically noiseless in operation, Fixtures specified are given as the typical standard required as manufactured by American Standard and they or other similar approved fixtures as made by Kohler or Eljer Companies shall be furnished, set and connected in good substantial, neat workmanlike manner.
- B. The letter designations hereinafter correspond with the schedule on the Drawings.
 - 1. Eye Wash – (Wall Mounted)
Encon model no. 01045622 chrome plated brass piping fittings and swivel, chrome plated bronze ball valve with stainless steel push plate, 90° locking swivel to swing over sink, plastic heads with float off covers, vandal resistant self-adjusting regulators assure even flow of 3.5 gpm under varying hydraulic conditions. Provide 11x17 sign.
 - 2. Floor Drains
Josam series 30000A or Zurn Z415 type “B” coated cast iron, two-piece body with double drainage flange, flashing collar, weepholes, bottom outlet and adjustable strainer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All fixtures shown on Drawings shall be set, connected and tested by the Contractor. He shall also make all water; soil, waste, vent and other service connections to fixtures as shown on Drawings or as directed and shall set, furnish, connect and test all necessary fittings.
- B. All pipes at fixtures passing into walls, floors or partitions shall be provided with heavy cast brass escutcheons and security (tamperproof) set screws finished to match the pipe. No "waiving" of this section will be permitted.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PLUMBING FIXTURES AND EQUIPMENT

- C. All fittings escutcheons, faucets, traps, exposed piping etc. shall be brass, chrome plated over nickel plate with polished finish. Any visible hanger nuts shall be security (tamperproof) type and shall likewise be chrome plated over nickel plate.
- D. This Contractor shall be responsible for protecting all plumbing fixtures including in these Specifications against injury from the building materials, tools and equipment. Any fixtures damaged during the construction period shall be replaced new. After all fixtures are set, this Contractor shall carefully grout all around fixtures.

END OF SECTION

SECTION 22 0310

BACKFLOW PREVENTERS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 SUBMITTALS

- A. Product Data: Manufacturers catalog sheets, specifications, and installation instructions for each type backflow preventer.
- B. Approval: Local water utility company and local department of health.

1.2 QUALITY ASSURANCE

- A. Regulatory Requirements
 - 1. Comply with the State Department of Health Sanitary Code for Cross Connection Control, and the other standards listed in Part 2 of this Section.
 - 2. Where conflicts occur between the referenced standards, the most stringent requirements shall apply.

1.3 MAINTENANCE

- A. Special Tools (as furnished or recommended by the backflow preventer manufacturer). Deliver to the Owner's Representative:
 - 1. Test Kit B: Sight tube, of required length, for testing backflow preventer for proper operation, and printed procedure for conducting test.
 - 2. Test must be performed by a Certified tester.

PART 2 - PRODUCTS

2.1 BACKFLOW PREVENTER

- A. Reduced pressure backflow preventer on cold water make up line to boilers equal to Watts series LF009, with removable bronze seats, stainless steel internal parts and resilient wedge shut-off valves. Other acceptable manufacturers are Febco Inc. and Wilkins/Zurn Industries Inc.
- B. RPZ Discharge Funnel and Air Gap
RPZ discharge funnel with trap J.R. Smith 3812 or approved equal Duco coated cast iron Air Gap J.R. Smith 3951 or approved Duco cast iron.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install the work of this section in accordance with the manufacturer's printed installation instructions and local water utility co. and department of health.
- B. Anchor piping to structure at each elbow to secure in the event of a pressure surge.

3.2 FIELD QUALITY CONTROL

- A. Operation Test: Test kit as specified under Part 1 of this section may be used. Conduct test in the presence of the Owner's Representative.
 - 1. Type B Backflow Preventer: Test the device with the test kit in accordance with the manufacturer's test procedure.
- B. Re-testing: Repair or replace any device failing the operation test, and repeat the test.

END OF SECTION

SECTION 22 0420

SUPPORTS, SLEEVES AND PLATES

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. This Contractor shall furnish and install all plates, hangers and supports for his piping.
- B. All piping shall be hung or supported from structural members only.

PART 2 - PRODUCTS

2.1 PIPING

- A. All piping shall be supported from building structure in a neat and workmanlike manner wherever possible, parallel runs of horizontal piping shall be grouped together on trapeze hangers. Vertical risers shall be supported at each floor line with steel pipe clamps. Use of wire perforated metal to support pipes will not be permitted. Hanging pipes from other pipes will not be permitted.
- B. Necessary structural members, hangers and supports of approved design to keep piping in proper alignment and prevent transmission of injurious thrusts and vibrations shall be furnished and installed. In all cases where hangers, brackets, etc., are supported from concrete construction, care shall be taken not to weaken concrete or penetrate waterproofing.
- C. All hangers and supports shall be capable of screw adjustment after piping is erected. Hangers supporting piping expanding into loops, bends and offsets shall be secured to the building structure in such a manner that horizontal adjustment perpendicular to the run of piping supported may be made to accommodate displacement due to expansion. All such hangers shall be finally adjusted, both in the vertical and horizontal direction, when the supported piping is hot.
- D. Pipe hangers shall be as manufactured by Grinnell, whose catalog numbers are given herein, or equivalent Carpenter and Paterson, or F&S Mfg. Co.
- E. Piping shall be supported as follows unless otherwise indicated on the Drawings:
 - 1. Piping: 1-1/2 inch and smaller Fig. #260 adjustable clevis hanger. 2 inch and larger Fig. #174 one-rod swivel roll hanger.
 - 2. Two-rod hangers shall be used for piping close to the ceiling slab or where conditions prohibit use of other hanger types.
 - 3. Anchors for hanger rods shall be Phillips "Red Head" self-drilling type. Anchors shall be placed only in vertical surfaces.
 - 4. Spacing of pipe supports shall not exceed 6 feet for pipes up to 1-1/2 inch and 10 feet on all other piping.
 - 5. Hangers shall pass around insulation and a 16-gauge steel protective band, 12-inch-long shall be inserted between hangers and insulation.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUPPORTS, SLEEVES AND PLATES

6. All piping shall be supported to allow free movement where expanding or contracting. Pipe shall be anchored as required or directed.
 7. All lateral runs of piping shall be securely supported on hangers, rolls, brackets, etc. and in a manner to allow for proper expansion and elimination of vibration.
 8. 2 inch and smaller pipe, where run on walls, shall be supported on wrought iron "J" hook brackets with anchor bolts.
 9. All horizontal pipe, where run overhead or on walls, shall be supported as follows unless otherwise indicated: On adjustable steel clevis type hangers suspended on hanger rods, pipe sizes up to and including 4 inch.
- F. Space limitations in hung ceilings spaces and conditions in other locations may require use of other type of hangers than those specified above. Suitable and approved pipe hangers shall be provided for such job conditions.
- G. All supports shall be fastened to structural members or additional steel supports furnished by this Contractor.
- H. Hanger rods shall be steel, threaded with nuts and lock nuts, sizes in accordance with following schedule:
- | <u>Pipe Size</u> | <u>Rod Size</u> |
|-------------------------|-----------------|
| 3/4" to 2" inclusive | 3/8" |
| 2-1/2" and 3" inclusive | 1/2" |
| 4" and 5" inclusive | 5/8" |
| 6" | 3/4" |
| 8" to 12" inclusive | 7/8" |
- I. Cast iron piping shall be supported at intervals of not more than (5) feet (at each hub) on straight runs.

PART 3 - EXECUTION

3.1 PIPING

- A. Where pipes pass through masonry, concrete walls, foundations, or floors, this Contractor shall set sleeves as are necessary for passage of pipes. These sleeves shall be of sufficient size to permit insulation where required to be provided around pipe passing through. This Contractor shall be responsible for exact location of these sleeves.
- B. Sleeves shall not be used in any portion of building where use of same would impair strength or construction features of the building. Inserts for supporting lateral pipes and equipment shall be placed and secured to form work, and all sleeves inserts locations shall be thoroughly checked with Architect so as not to conflict with other trades.
- C. Where pipes pass through floor or walls, they shall be provided with chromium plated escutcheons.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUPPORTS, SLEEVES AND PLATES

- D. Anchor horizontal piping where indicated and wherever necessary to localize expansion or prevent undue strain on branches. Anchors shall be heavy forged construction entirely separate from supports.
- E. Anchor vertical piping wherever indicated and wherever necessary to prevent undue strains on offsets and branches. Anchors, unless otherwise noted shall be heavy steel clamps securely bolted and welded to pipes. Extension ends shall bear on building construction.
- F. Auxiliary steel supports that may be required for all mechanical equipment shall be furnished and installed by this Contractor.
- G. All operating equipment including pumps, piping, etc. shall be supported so as to produce minimum amount of noise transmission.

END OF SECTION

SECTION 22 0430

INSULATION

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. The work under this section shall consist of furnishing all labor, materials, equipment and appliances necessary and required to completely do all insulation work as required by the Drawings and as specified herein including but not limited to the following: Insulation, covering, bands, tie wire.

PART 2 - PRODUCTS

2.1 INSULATION

- A. The materials as specified have been selected from the catalogs of Owens-Corning Fiberglass Corp. and Johns-Manville Sales Corporation and are representative of the quality, design and finish desired. Insulation as manufactured by Gustin Bacon Co., or other approved manufacturer may be submitted for approval provided the product meets fully in all respects (such as density, moisture absorption, alkalinity, thermal-conductivity, jackets) to the materials as delineated below.
- B. All insulation shall be UL rated non-combustible type classified flame spread-25, smoke-developed-50.

2.2 PIPING, FITTINGS AND VALVES

- A. All insulation thickness shall be in accordance with the latest edition of the New York State Energy Conservation Construction Code.
- B. Minimum pipe insulation shall be:
 - 1. Hot water piping up to 2"-1" insulation and piping 2-1/2" and larger - 1-1/2" insulation.
 - 2. Cold water piping up to 2" - 3/4" insulation and piping 2-1/2" and larger - 1" insulation.
- C. Domestic cold, hot water hot water return indirect waste, storm and piping aboveground. All piping shall be insulated with sectional glass fiber insulation, Owens-Corning 2-piece ASJ/SSL. Joints between sections shall be sealed with factory supplied 3-inch-wide sealing strips. Sealing by means of Owens Corning self-sealing lap will also be acceptable. Install (anti-sweat) vapor barriers on all cold-water piping.
- D. Domestic hot and cold water valves and fittings - Fittings, valves, etc. shall be insulated with flexible blanket insulation compressed to 1/2 its thickness, tied on with jute twine over which shall be applied a flood coat of Insul-Coustic IC-102 and 10-20 open weave glass cloth. Glass cloth to be finished within additional coat of IC-102. Insulation blanket shall be Owens-Corning wrap.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All insulation on pipes running through walls, floors, partitions and beams shall be continuous through sleeves and openings.
- B. Insulation shall be installed only after all tests of the piping system have been completed.
- C. All insulation shall fit snugly.
- D. All surfaces shall be clean and dry when insulation is applied.
- E. Longitudinal joints shall be on least conspicuous side off the pipe.
- F. Valves shall be insulated up to the packing unit.
- G. As specified hereinbefore, all horizontal runs of piping will be supported on adjustable clevis or group trapeze type hangers. Pipe hangers will be installed outside of the insulation. Where hangers occur, prefabricated insulation protective saddles shall be "Insul-Shield-Multi-Purpose-Saddle" as manufactured by Insul-Coustic Corp. or approved equal.
- H. Hot and cold water branch piping extending through slab or knockout panels to serve equipment shall be insulated to a point 4 inch above the top of sleeve provided for pipe.
- I. The use of staples shall not be permitted.
- J. It is the intent of this Specification that all vapor barriers be continuous throughout. Reinstate existing piping at point of new pipe connections.

END OF SECTION

SECTION 22 0470

TESTS AND ADJUSTMENTS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section.

1.1 TESTS AND ADJUSTMENTS

- A. The Contractor shall, at his own expense, during the progress of the work or upon its completion as ordered make such tests as are specified or as required by and in the presence of the Architects, Building Inspectors, etc. At least 48 hours' notice shall be given in advance of all tests.
- B. The Contractors shall provide all apparatus, temporary work or other requirements necessary for all tests. He shall take all due precautions to prevent damage to the building, its contents or the work of the other Contractors, that may be incurred by all tests. This Contractors shall also be responsible for the work of other Contractors that may be damaged or disturbed by the tests or the repair or replacement of his work, and he shall without extra charges, restore to its original condition, any work of other Contractors to do the work of restoration.
- C. Tests on the various systems may be conducted in sections as the work progresses or when the systems are completed.
- D. No caulking of pipe joints to remedy leaks will be permitted except where joints are made with lead and oakum.
- E. Each section of the sanitary, storm and vent piping tested shall have all openings tightly closed with screw plugs, or equal device. The drainage and vent systems shall be filled with water and proven tight under a 10'-0" head for a minimum of four (4) hours. Water level must remain constant through test without adding water.
- F. Upon final completion of the sanitary systems and when all fixtures and appurtenances have been set and the systems are in complete working order, all traps in the systems shall be filled with water and a thick penetrating smoke shall be introduced into the entire system.
- G. As smoke appears at the stack openings on the roof, such openings on the roof shall be tightly closed and a pressure equivalent to 1-1/2 inch of water shall be maintained during the test. Oils of peppermint shall be added at the smoke making machines so that any leakage is readily discernible.
- H. Before any covering is applied to the domestic water piping systems, the entire domestic water piping systems shall be hydrostatically tested for eight (8) hours to a hydraulic pressure of 125 psig.
- I. At the completion of the test, Contractor shall furnish the Owner with one (1) copy of test certificates as issued by the insurance company.
- J. Adjustments: Tests and adjustments shall be repeated as often as necessary until the systems are tight and are to the entire satisfaction of the Plumbing Inspector, Engineers and any other authorities having jurisdiction.
 - 1. Contractor is to thoroughly instruct the building custodian in the proper care and operation of the entire system. Contractor shall prepare for use by custodian, detailed brochures of instructions in

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TESTS AND ADJUSTMENTS

non-technical terms, describing the maintenance and operation of all fixtures, apparatus, valves, controls etc. furnished by him.

2. Should any part of the work performed under this Contract fail to function because of cracked piping, obstructions, debris in piping, leaks in piping or any other cause, this Contractor shall disconnect, clean and reconstruct the work at his own expense and pay for any damages to adjoining work.
3. Water flow is to be balanced and adjusted to all flush valves, faucets, etc.
4. All parts of the plumbing system are to be thoroughly flushed until cleared of all grease and sediment and all dirt pockets cleaned. Repeat as often as necessary, open all cleanouts and reset in graphite.
5. All new motors shall be oiled as required.
6. All new valves are to have stuffing boxes packed and adjusted.

END OF SECTION

SECTION 22 0480

TAGS, CHARTS AND IDENTIFICATION

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 TAGS, CHARTS AND IDENTIFICATION

- A. Every valve installed under this Contract shall be tagged or labeled as follows: Tag shall be etched brass securely fastened to valve handwheels with heavy brass "S" hooks, soldered closed. At lock shield and similar type valves, tags for same shall be securely wired to valve body.
- B. Charts shall be provided for each piping system, as approved and shall consist of schematic diagrams of piping layouts showing and identifying each valve and piece of equipment etc., and its use. Upon completion one (1) copy of diagrams and valve charts suitably framed under glass, shall be furnished and mounted where directed. One (1) copy of diagrams and valve charts shall be delivered to Owner.
- C. This Contractor shall provide on all piping, semi-rigid, wrap around plastic identification markers equal to Seton Snap-Around and/or Seton Strap-On pipe markers.
- D. Each marker background is to be appropriately color coded with a clearly printed legend to identify the contents of the pipe. Directions of flow arrows are to be included on each marker.
- E. Identification of all piping shall be adjacent to each valve, at each pipe passage through wall, floor and ceiling construction and at each branch and riser take-off.
- F. Identification shall be on all horizontal pipe runs, marked every 15 ft. as well as at each inlet outlet of equipment at changes in direction.

END OF SECTION

SECTION 22 0490

GUARANTEE

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section.

1.1 GUARANTEE

- A. The Contractor shall remove, replace and/or repair at his own expense and at the convenience of the Owner, any defects in workmanship, materials, ratings, capacities and/or characteristics occurring in the work within one (1) year or within such longer period as may be provided in the Drawings and/or Section of the Specifications, which guarantee period shall commence with the final acceptance of the entire Contract in accordance with provisions stated in the General Conditions, and the Contractor shall pay for all damage to the system resulting from defects in the work and all expenses necessary to remove, replace and/or repair and any other work which may be damaged in removing, replacing and/or repairing the work.

END OF SECTION

SECTION 23 0100

GENERAL CONDITIONS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 GENERAL CONDITIONS

- A. Before submitting a proposal, Bidders shall examine all related to this work and shall become fully informed as to the extent and character of the work required and its relation to the other work in the building.
- B. Before commencing work, the Contractor will examine all conditions of the project upon which his work is in any way dependent for perfect workmanship according to the intent of this Specification. No "waiver of responsibility" for incomplete, inadequate or defective adjoining work will be considered unless notice has been filed by this Contractor and acceded to by the Owner's representative in writing before the Contractor begins any part of the work.
- C. The Contractor will pay for all licenses, permits and inspection fees required by civil authorities having jurisdiction. Comply with all laws, ordinances, regulations, and fire underwriter's requirements applicable to work herein specified without additional expense to the Owner.
- D. Small scale drilling through walls and floors or cutting of piping insulation which may contain asbestos shall be performed by a person with a "restricted asbestos handler allied trades certificate" and shall have a copy of it in his possession at all times while working of the project. This shall also apply to removal of piping, ductwork or equipment insulation.
- E. It is specifically intended that anything (whether material or labor), which is usually furnished as a part of such equipment, as is hereinafter called for (and which is necessary for the completion and proper operation) shall be furnished as part of this Contract without additional cost the Owner, whether or not shown in detail or described in the Specifications.
- F. When Drawings and Specifications conflict or there is a question as to the proper intent of this Contract, the Contractor shall assume the greater quantity, the higher quality and/or the more expensive method in his pricing. All questions shall be directed to the Architect/Engineer in writing only and only up to ten (10) days prior to bidding.
- G. The Drawings indicate the general runs of the piping, ductwork, etc. systems and the location of equipment and apparatus, however it shall be understood that the right is reserved by the Architect/Engineer to change the location of piping work, ductwork, equipment and apparatus to a reasonable extent as building conditions may dictate, prior to their installation without extra cost to the Owner.
- H. All components supplied by this Contractor shall be UL listed and/or ETL labeled and shall conform to ASHRAE Standard 15.
- I. Any changes from the Drawings and Specifications and any interpretation thereof shall have the prior approval of the Architect/Engineer. The Contractor shall submit in writing, at the time of signing the Contract, any items of necessary labor and materials, which, in his opinion, are lacking in requirements of the Drawings and Specifications to insure a complete job in all respects. No consideration will be granted to alleged misunderstanding of materials to be furnished, work to be done, or conditions to be complied with, it being understood that the tender of a proposal carries with it the agreement to all items and conditions referred to herein, or indicated on the accompanying Drawings.

END OF SECTION

SECTION 23 0110

SCOPE OF WORK

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 SCOPE OF WORK (KING STREET ES)

- A. The work under this section includes all labor, materials, equipment, tools, transportation, and the performance of all work necessary and required for the furnishing and installation complete of all work as shown on the Contract Documents, including but not necessarily limited to the following:
1. High efficiency dual fuel condensing hot water heating boilers with related appurtenances. This Contractor shall file the boiler installation with the Westchester County Department of Health. See Drawing Note for additional information.
 2. All required hot water, fuel-oil, refrigerant and condensate drain piping, valves and related specialties.
 3. Inline centrifugal pumps.
 4. Double wall, insulated boiler flues with rain caps and all required components for a complete installation through existing roof.
 5. Duct and pipe insulation.
 6. Rigging of equipment.
 7. Furnish all combination motor starter/disconnects for equipment (with the exception of starters and electric items already mounted on equipment or equipment not requiring same). Fan motor starter/disconnects shall have contacts for ATC connection and a terminal block connection for Fire Alarm fan shutdown. Starters per manufacturers recommendations. Underwriters inspection and certificate required. Coordinate with Electrical Contractor.
 8. Air and Water Balancing.
 9. Automatic temperature controls with complete wiring (regardless of voltage).
 10. Testing, adjusting and start-up of equipment.
 11. Painting and identification of all equipment and piping.
 12. Firestopping per NFPA requirements (UL approved systems).
 13. Operating and maintenance instructions.
 14. As-Built Drawings - Refer to Division 1.
 15. Cutting and Patching - Refer to Division 1.
- B. Coordination Drawings (if applicable): Attention is directed to Division 1 for coordination drawing requirements for this project. These drawings are critical to the proper execution of the work and failure to honor these requirements may become the basis for denial of any and all claims for either or both "time" and "money".

1.2 REMOVALS

- A. Removals should be coordinated with other trades affected.
- B. Piping which penetrates the construction may be cut and capped provided capping is done beneath the finished surfaces so that construction over it can be achieved.
- C. Soot Removal: In connection with the dismantling of boilers, Contractor shall gather together with a vacuum-cleaning machine all accumulations of soot. He shall remove all soot from the base of the chimney.
- D. All removals shall be removed from the site.

1.3 ALTERATION WORK

- A. All equipment, piping, control components, etc. to be removed, shall be disposed of or salvaged as directed by the Owner. They shall not be removed from the premises without the Owner's approval.
- B. All piping to be removed shall be properly plugged or capped so that upon completion of all new work, all abandoned piping shall be concealed in finished areas.
- C. No dead ends shall be left on any piping upon completion of job. The existing system shall be left in perfect working order upon completion of new work.
- D. Location and sizes of existing piping, ductwork, equipment, etc. are approximate. Exact sizes and locations of all existing work shall be verified on the job.

END OF SECTION

SECTION 23 0120

BOILERS / BURNERS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 SCOPE

- A. The work to be performed includes all new equipment, labor and materials required to furnish and install ultra high efficiency Fulton Vantage Condensing, Dual Fuel Boilers as described herein.

1.2 REFERENCES

- A. ASME
- B. CAN-13.1-77, Industrial and Commercial Gas Fired Packaged Boilers
- C. CSA-B140.7-05, Oil Burning Equipment: Steam and Hot Water Boilers
- D. CSD1, Controls and Safety Devices
- E. CSA-CGA/AGA
- F. GE GAP
- G. NEC, National Electric Code
- H. UL-795
- I. Con Edison Gas

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data, including rated capacities of selected model, weights (shipping, installed and operating), installation and start-up instructions, and furnished accessory information.
- B. Shop Drawings: Submit manufacturer's end assembly drawings indicating dimensions, connection locations, and clearance requirements.
- C. Wiring Diagrams: Submit manufacturer's electrical requirements for the boiler including ladder type wiring diagrams for interlock and control wiring. Clearly differentiate between portions of wiring that are factory installed and portions to be field installed.

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in the manufacture of condensing hydronic boilers with steel pressure vessels, whose products have been in satisfactory use in service for not less than twenty (20) years. The manufacturer must be a privately owned, American company. The boilers must be manufactured in the USA and be able to participate in projects that require a level of USA content of boiler materials. The specifying engineer, contractor and end customer must have the option to visit the factory during the manufacture of the boilers and be able to witness test fire and other relevant procedures.
- B. The boiler will be rated for a maximum allowable working pressure of 160 PSIG and a maximum allowable working temperature of 210°F.
- C. The flame safeguard control on the boiler shall be the Siemens LMV series for full linkageless operation with servo motors to control the supply of fuel and air to the boiler for combustion.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BOILERS/BURNERS

- D. The entire boiler system and its installation shall conform to the manufacturer's instructions, applicable codes and associated National Board requirements.
- E. The equipment shall be in strict compliance with the requirements of this specification and shall be the manufacturer's standard commercial product unless specified otherwise. Additional equipment features, details, accessories, etc. which are not specifically identified but which are a part of the manufacturer's standard commercial product, shall be included in the equipment being furnished.
- F. The equipment shall be of the type, design, and size that the manufacturer currently offers for sale and appears in the manufacturer's current catalog.
- G. The equipment shall fit within the allocated space, leaving ample allowance for maintenance and inspection.
- H. The equipment shall be new and fabricated from new materials. The equipment shall be free from defects in materials and workmanship.
- I. All units of the same classification shall be identical to the extent necessary to ensure interchangeability of parts, assemblies, accessories, and space parts wherever possible.
- J. In order to provide unit responsibility for the specified capacities, efficiencies, and performance, the boiler manufacturer shall certify in writing that the equipment being submitted shall perform as specified.

1.5 WARRANTY

- A. The boiler manufacturer will repair or replace any part of the Vantage boiler that is found to be defective in workmanship or material within eighteen (18) months of shipment from the factory or twelve (12) months from start-up (whichever comes first).
- B. The boiler's pressure vessel is warranted against failure due to thermal shock for the lifetime of the boiler provided the boiler is installed, controlled, operated and maintained in accordance with the Installation, Operation and Maintenance Manual.
- C. The pressure vessel and heat exchanger is covered against failures resulting from flue gas corrosion and/or defective material or workmanship for a period of five (5) years from the date of shipment from the factory. Waterside corrosion or scaling is not covered. The manufacturer will repair, replace, exchange or credit at their option, FOB factory, the pressure vessel as defined above, provided this equipment has been installed, operated and maintained by the buyer in accordance with the Installation, Operation and Maintenance Manual.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. This specification is based on the Vantage Dual Fuel Series boilers as manufactured by Fulton Heating Solutions, Inc. Equivalent units and manufacturers must meet all performance criteria for all fuel options, and will be considered upon prior approval.
- B. The boiler manufacturer will provide at its own expense the opportunity for the owner and the owners engineer to visit the boiler manufacturer's factory to witness manufacturing, test fire and other operational safety inspections associated with the referenced boilers.

2.2 BOILER CONSTRUCTION

- A. The boiler shall be completely factory assembled as a self-contained unit. Each boiler shall be neatly finished, thoroughly tested, and properly packaged for shipping.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BOILERS/BURNERS

- B. The pressure vessel design and construction shall be in accordance with Section IV of the ASME Code for heating boilers. The boiler shall comply with CSD-1 code requirements.
- C. It shall be acceptable to vent the boiler using sealed combustion (drawing in fresh air from the outdoors) or to draw air from the mechanical room itself.
 - 1. The flue (exhaust) stack must be AL294C or equivalent material UL-1738/C-UL S636 approved for Category IV (condensing, positive pressure) applications.
 - 2. The air intake piping must be Schedule 40 PVC or equivalent.
 - 3. The boiler shall be capable of operating with an exhaust draft not exceeding -0.01" wc and a combined air intake and exhaust venting pressure drop not exceeding +0.50" wc.
- D. The pressure vessel shell and furnace chamber shall be a minimum 3/8" thick steel, SA-53B ERW pipe or SA-516 Grade 70 plate. A dished head attached to the furnace chamber shall be SA-516 Grade 70 plate. Exhaust pipes attached to the furnace chamber shall be 3" diameter Schedule 40 steel.
- E. The area of the heat exchanger where the flue gases will condense shall be constructed using duplex alloys of stainless steel. Alloys of the 300 series stainless steels, such as 316L or 304, have a relatively high coefficient of linear expansion and thus are unacceptable.
- F. Boilers with heat exchangers using cast aluminum, cast iron or copper finned tube design platforms are unacceptable.
- G. The pressure vessel shall be fully insulated with high temperature insulation.
- H. The boiler shall be a fire tube design. The furnace location shall be such that all furnace components are within water-backed areas.

2.3 BOILER DESIGN

- A. External convection and radiation heat losses to the boiler room from the boiler shall be less than 0.5% of the rated boiler input.
 - 1. The boiler shall have its efficiency witnessed and certified by an independent third party, and the efficiency must be listed on the AHRI directory (www.ahridirectory.org) for natural gas and #2 fuel oil. The test parameters for efficiency certification shall be the BTS-2000 standard, with 80°F return water temperature, 180°F supply water temperature, steady state operation at full input firing capacity. The certified thermal efficiency for natural gas firing shall not be less than 95.7%
- B. The Fulton Vantage boilers shall be designed to operate on future low sulfur #2 fuel oil using the same burner as is used for natural gas firing. Each boiler shall achieve full rated input capacity on the backup fuel. The boiler's flame programmer shall have two independent load profiles, each profile programmed for a specific fuel.
- C. The boiler shall have no minimum return water temperature when firing on natural gas or low sulfur oil. Boiler stack temperature shall be monitored for notifying the operator when the heat exchanger requires cleaning.
- D. A zero flow or low flow condition shall not cause any harm to the pressure vessel or heat exchanger of the boiler. Flow switches, dedicated circulator pumps, or primary/secondary piping arrangements are not required to protect the heat exchanger.
- E. It shall be acceptable to install any number of Vantage boilers with as little as 1" side clearance on either side of the boiler.

2.4 CONTROLS

- A. The flame safeguard control shall be capable of linkage-less modulation and shall provide the following:
 - 1. The control shall provide a 30-second pre-purge and post-purge time.
 - 2. The control shall maintain a running history of operating hours, number of cycles, and the most recent six control lockouts.
 - 3. The control is connected to a display module, which is capable of retrieving the information listed above.
- B. The boiler shall be set up for a maximum 5:1 turndown when firing on natural gas. Any boiler claiming turndown greater than 5:1 is in violation of the ANSI Z21.13 requirements, which states that a boiler's minimum input firing capacity shall not be less than 20% of its maximum input firing capacity. Any boiler claiming turndown greater than 5:1 must provide references for five (5) installations of similar capacity operating at the claimed turndown for at least (3) complete heating seasons.
- C. The boiler shall be set up for full modulation on Natural Gas & two-stage, lo-hi-lo, firing for #2 oil.
- D. Airflow shall be controlled by a butterfly valve connected to a precision servo-motor. Fuel flow shall be controlled by a butterfly valve for gas and solenoids for oil.
- E. Each dual fuel burner on the Vantage boilers shall be a forced draft flame retention type automatic burner. The burner housing shall be cast aluminum monobloc type construction. The burner mounting flange must support the burner weight on the boiler independent of any support. Burner shall be furnished with a stainless steel flame retention type of combustion head, capable of withstanding temperatures up to 1400F. This combustion head shall incorporate a diffuser and sleeve that is to direct excess air either around the flame or directly through the diffuser vanes. Adjustment to the diffuser insertion shall be made external to the burner and can be made while the burner is in full operation. Burner must have a flame inspection window positioned at the rear center of the burner housing. Flame shall be viewed without removing any covers. Burner shall come complete with a high efficiency, totally enclosed fan cooled motor (TEFC) and a dynamically balanced blower wheel. The blower wheel must be of the energy efficient, self-cleaning, reverse inclined fan blade type. The sound rating of the burner shall not exceed 80 dBA when measured at 3 feet from the burner.
- F. The burner gas ignition system for the main gas shall utilize natural gas or as the fuel source. The gas pilot system components shall include spark ignited pilot assembly, 7000 Volt ignition transformer, pilot safety shut off valve, pilot gas pressure regulator and manual gas shutoff cock. The burner oil ignition system shall be by means of a separate 2 x 5000 Volt direct spark ignition system.
- G. The burner shall be equipped with an integral burner mounted control panel consisting of necessary motor starters, overloads, lights and switches. The burner shall be equipped with a single pole double throw air pressure switch that will not allow burner to start if there is insufficient combustion air, which is checked prior to each ignition attempt. Before the burner can start the airflow switch must be in the open position to prove the switch is not giving a false signal of sufficient combustion air pressure.
- H. Boiler safety controls shall include:
 - 1. Operating Temperature Controller for automatic start and stop.
 - 2. High Limit Temperature Controller with manual reset.
 - 3. One Low Water Cutoff Probe in the boiler shell.
 - 4. Air Safety Switch to prevent operation unless sufficient combustion air is assured.
 - 5. Flame detector to prove combustion.
- I. All controls are to be burner or panel mounted and so located on the boiler as to provide ease of servicing the boiler without disturbing the controls. All controls shall be mounted and wired according to UL requirements. Electrical power supplied shall be 208/230/460/3/60. A control circuit transformer shall be factory supplied, wired and mounted.

- J. The boilers shall be controlled by a Synex ModSync Boiler Sequencing System. Please refer to the specification for the ModSync for complete details of the parameters and capabilities associated with it.

2.5 MAIN FUEL TRAIN COMPONENTS

- A. A factory mounted main gas train shall be supplied. The gas train shall be fully assembled, wired, and installed on the boiler and shall comply with CSD-1 code. Compliance with other codes is available upon request. The maximum pressure rating of the components shall not be less than one psi. The gas train shall consist of at least two manual shutoff valves, one gas pressure regulator, one automatic safety shutoff valve with prove of closure, one flow control valve, one high gas pressure switch, and one low gas pressure switch. The automatic safety shutoff valve and flow control valve may be the same valve. A pilot gas train, when supplied, shall comply with the same code and maximum gas pressure rating as the main gas train.
- B. The dual fuel boilers shall have a factory mounted oil pump set mounted to the boiler assembly and shall be directly driven by a motor independent from the combustion air motor. The oil pump must have an integral regulator to adjust the flow of oil to burner nozzles. There shall be three safety shut off valves (main safety, first stage, and second stage). All piping on the burner valve train must be factory installed. Field connections must be NPT. All wiring of oil train valves and switches must be done at the factory.
- C. The boiler shall not require a compressed air supply to fire on #2 fuel oil.

2.6 BOILER FITTINGS & TRIM

- A. The boiler shall be supplied with an ASME Section IV safety relief valve. The safety relief valve size shall be in accordance with ASME code requirements.
- B. The boiler shall be supplied with a temperature/pressure gauge to be mounted on the water outlet piping of the boiler.
- C. A condensate drain connection shall be provided in the exhaust outlet. A Fulton condensate drain kit will be provided to collect and drain the flue gas condensate.
- D. The water supply and return connections on the boiler shall be 150# flanged connections. The water connections shall not be designed to support any external mechanical load from the piping system.
- E. Each boiler will be fitted with two motorized butterfly isolation valves at the boiler outlet All boiler motorized isolation valves will be controlled by the ModSync Controller.
- F. The boiler shall come with lifting eyes and fork truck holes accessible for rigging.
- G. Instructions for installation, operation and maintenance of the boiler shall be contained in a manual provided with each boiler.
- H. A wiring diagram corresponding to the boiler configuration shall be included with each boiler.
- I. A factory test fire report corresponding to the boiler configuration shall be included with each boiler.

2.7 EMISSIONS

- A. When operating on Natural Gas, the boiler shall have CO emissions less than 35ppm corrected to 3% O₂ and NO_x emissions less than 70ppm corrected to 3% O₂, over the entire turndown range.
- B. When operating on #2 fuel oil, the boiler shall have CO emissions less than 50 ppm corrected to 3% O₂ and NO_x emissions less than 75 ppm corrected to 3% O₂, over the entire turndown range.

2.8 SYNEX MODSYNC

- A. With multiple hydronic boilers installed in a common loop, a boiler sequencing control system shall be used. The sequencing system will monitor, enable/disable and control the firing rate of each boiler in the loop. The system shall also have the capability of being interfaced and controlled by a Building Management System. To ensure accurate temperature control and optimized boiler operating efficiencies, a ModSync Sequencing System shall be used.
- B. The hydronic boilers shall be controlled as follows to maximize their operating efficiency:
1. The sequencing system shall monitor the outdoor temperature and calculate a hydronic loop temperature setpoint based on touchscreen selectable user-defined values. The boiler sequencing system will stage operation of the hydronic boilers based on the difference between the actual hydronic loop temperature and the calculated
 2. (outdoor air reset) hydronic loop temperature setpoint.
 3. When a requirement for heat is determined by the boiler sequencing system, the lead boiler is energized and its firing rate is maintained at low fire.
 4. If the hydronic loop temperature continues to decrease, the boiler sequencing system will enable a lag boiler. The first lag boiler is energized and the lag boiler's firing rate is maintained at low fire.
 5. As additional heat is required, the boiler sequencing system will enable the remaining lag boiler stages individually until all of the available boilers in the hydronic loop have been energized. Each boiler will remain at low fire until all of the stages have been enabled.
 6. If all of the hydronic boilers are enabled and additional heat is required, the boiler sequencing system will release the boilers to modulate. Operating hydronic boilers at lower firing rate levels provides significant efficiency gains. Therefore, hydronic boilers will modulate together as a single unit to keep the hydronic boiler system at the lowest possible firing rate, while satisfying the building load demands.
 7. As the hydronic loop temperatures increase, the boiler sequencing system will decrease the firing rate of the hydronic boilers and the signals to the VFD drives to maintain the hydronic loop temperature and maximize system efficiency and turndown. If all of the hydronic boilers are at low fire and the hydronic loop temperature continues to rise, the boiler sequencing system will begin to stage the boilers off. The first lag boiler stage energized will be the last stage to be disabled. The hydronic boilers will continue to be disabled by the boiler sequencing system based on the temperature rise of the hydronic loop.
 8. The lead boiler is disabled when the hydronic loop temperature reaches a selectable value referenced around the hydronic loop setpoint.
 9. The ModSync controller shall provide initiation and VFD control operation and auto rotation switching of system pumps to include two (2) main hydronic heating pumps.
 10. The ModSync shall provide automatic shutdown of the boilers in the event of CO and/or Methane detection. The system shall be designed to minimize the risk to personnel and facilities of exposure to dangerously high concentrations of combustible and CO gases. The system shall include a carbon monoxide sensor – electrochemical type – 0-2,000 PPM range, 35 second response time, explosion proof NEMA 7 enclosure, and a combustible gas sensors – catalytic bead type, 0-100% LEL range less than 60 seconds response time, explosion proof NEMA 7 enclosure.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BOILERS/BURNERS

- C. The boiler sequencing system will be a microprocessor based process controller with a graphical user interface and touchscreen capabilities. Boiler sequencing systems designed with alpha-numeric displays will not be acceptable due to their limited functionality.
- D. The active touchscreen display area will be a minimum of 5.7" with a color TFT display resolution of 256 colors.
- E. The boiler sequencing system enclosure will be NEMA 4X construction. The enclosure shall be designed with the ability of be located in outdoor environments. Mounting of the boiler sequencing system inside another panel to provide an outdoor rating will not be acceptable due to the increased access time requirements to view and modify the system parameters. Power requirements for the boiler sequencing panel will be 120/60/1.
- F. The boiler sequencing system will be a wall mounted, stand-alone unit. Local boiler controls with integrated lead/lag logic are not acceptable due to their limited logic capabilities and rewiring requirements in the event of a sensor or local controller error.
- G. Password requirements will prevent access to any of the screens where system configuration parameters can be adjusted, while maintaining the ability of viewing the system performance.
- H. Outdoor and Supply Header Temperature sensors supplied with the boiler sequencing system shall be PT-100 RTD type for precise temperature monitoring. Return Temperature monitoring capabilities shall be available and used when BTU calculation is used. The boiler sequencing system will also have the ability to receive temperature values from the Building Management System through a communication protocol. Each temperature input shall have a selection button that allows for independent configuration of where the temperature value will be received from.
- I. The boiler sequencing system will provide a series of "Question and Answer" screens to simplify the commissioning process.
- J. Multiple Status and Configuration Screens will be available for easy interpretation of the hydronic loop status and simplified control configuration of the multiple hydronic boiler system. Minimum screens available shall include:
 - 1. Outdoor Reset Configuration
 - 2. Setback Schedule
 - 3. Lead/Lag Configuration
 - 4. Boiler Configuration
 - 5. System Status
 - 6. Alarm Status
 - 7. History
- K. Outdoor Reset - The ability to adjust the hydronic loop temperature setpoint based on the outdoor temperature is a key element of hydronic system efficiency. As the outdoor temperature increases, the hydronic loop setpoint can decrease while still maintaining the desired building temperature. Lower return water temperatures can significantly increase the hydronic boiler system efficiency. The boiler sequencing system shall provide Outdoor Reset Configuration Screens that include all of the parameters required to effectively configure the hydronic loop setpoint based on the outdoor temperature.
 - 1. The boiler sequencing system will provide an adjustable reset schedule based on the outdoor temperature. A linear outdoor reset ratio will be determined based on user-defined hydronic loop temperatures at 50°F and 0°F outdoor temperatures. Outdoor temperature configuration variables shall be adjustable through the touchscreen to match designed reset schedule requirements. A reference graphic detailing the calculated reset ratio will be displayed on the Outdoor Reset Configuration screen. When firing on #2 oil the return temperature shall be maintained above 140 °F.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BOILERS/BURNERS

2. Minimum and maximum loop temperature parameters will prevent the outdoor reset schedule from operating outside of a user-defined temperature range.
 3. A user-defined Outdoor Temperature Disable parameter will be provided to disable the hydronic loop if a predetermined outdoor temperature is reached. A hysteresis variable will prevent the hydronic system from re-enabling until the outdoor temperature decreases user-defined amount.
 4. To meet multiple system control configurations, setpoint mode adjustment capabilities will be included as standard with the boiler sequencing system. Setpoint Modes will include Outdoor Reset, 4-20mA Remote Setpoint, BMS Communication or Manual. The setpoint mode shall be field adjustable by a touchscreen selection button on the Setpoint Configuration screen.
- L. Setback Configuration Screens shall be provided to adjust the hydronic loop setpoint based on Day of the Week/Time of Day variables.
1. Multiple setback schedules shall be available based on whether the building is in Occupied or Unoccupied mode. Building Mode selection shall be determined by a user-defined Time of Day / Day of Week touchscreen entry. The Building Mode will automatically change between Occupied and Unoccupied based on the user programmed day and times. Manual Building Mode control shall also be available via a Setup menu. Building Mode shall be indicated on the Loop Status Screen for ease of reference.
 2. An Anticipation Mode feature shall be provided to automatically switch to Occupied Mode a selectable number of hours earlier than scheduled if the outdoor temperature lowers below a user-defined temperature during the Unoccupied Mode.
- M. Lead/Lag Configuration screens shall be used to configure how the hydronic boilers will be assigned and enabled in the control sequence.
1. The boiler sequencing system will include automatic rotation of the lead boiler based on a user configured lead boiler cycle count or run hours, whichever setting occurs first.
 2. When the lead cycle or run hours rotation value is reached, the boiler sequencing system will assign each boiler's position in the lead/lag sequence based on their previous operating history. Boiler sequencing systems that simply rotate the lead position to the next boiler in the sequence will not be acceptable due to their ineffective ability of maintaining an even cycle count across all of the boiler stages in the hydronic loop.
 3. The boiler sequencing system will stage the boilers based on a PID generated control variable value. The Proportional, Integral and Derivative values shall be user-defined through the Lead/Lag Configuration screen. Each lag boiler stage will be enabled and disabled based on a user-defined control variable percentage. Properly tuned loops will provide temperature control accuracy up to +/- 2°F, based on load demand. Lead boiler start and stop parameters shall be user-defined through the touchscreen operator interface. A Manual Reset parameter will allow the Proportional Band to be shifted around setpoint.
 4. A user-defined time delay parameter will be provided that delays enabling and disabling of the lag boiler stages. This helps to decrease cycling of the lag stages when the building load is close to being satisfied.
 5. The boiler sequencing system will have the ability to monitor the outlet temperature of each hydronic boiler in the system. This feature is beneficial for systems that will incorporate variable flow designs. If the boiler outlet temperature exceeds setpoint by a user-defined amount, the boiler sequencing system will automatically lower the firing rate of the boiler to help prevent a high limit trip at the boiler. As the boiler outlet temperature decreases below a defined variable, the boiler sequencing system will allow the firing rate of the boiler to increase.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
BOILERS/BURNERS

- N. Boiler Configuration screens will display information regarding each boiler stage in the hydronic loop.
1. The boiler configuration screens will detail and provide:
 - a. Hydronic Boiler Status.
 - b. Hydronic Boiler Cycles, Run Hours and Cycle/Hour Ratio calculation.
 - c. Hydronic Boiler Outlet Temperature.
 - d. Hydronic Boiler Enable/Disable touchscreen selection.
 - e. Hydronic Boiler Auto/Manual touchscreen control mode selection.
 - f. Hydronic Boiler Manual touchscreen Start/Stop and Firing Rate control.
 2. The boiler sequencing system shall include capabilities to enable/disable the boilers through the operator interface. Boilers that are disabled will not be included in the sequencing logic.
- O. The boiler sequencing system will monitor the operation and status of all temperature sensors and hydronic boilers in the loop. Sensor errors will be annunciated on the boiler sequencing systems alarm screen. If an outdoor temperature sensor error occurs, the boiler sequencing system will automatically switch to manual setpoint mode and will annunciate the alarm condition.
- P. The boiler sequencing system will start a timer when each boiler stage is enabled to run. If the main gas valves do not energize within the user-defined timeframe then a local limit is preventing the boiler from operating. The boiler sequencing system will immediately remove the boiler from the lead/lag sequence and annunciate that a local boiler error exists. An automatic reset option will allow the boiler to be re-enabled after a user-defined timeframe has elapsed. An outdoor air damper will be enabled and proven open by the sequencing system prior to the initiation of firing.
- Q. An Alarm Status screen will give a text description of any current alarm conditions. Boiler sequencing systems that use codes or symbols to detail alarm conditions will not be acceptable. The boiler sequencing system will automatically adjust the boiler sequencing status and remove the boiler from the sequencing logic if an alarm occurs. The boiler will automatically be added back into the rotation loop as soon as the boiler sequencing system senses that the alarm has been cleared.
- R. The boiler sequencing panel will include an Alarm History screen that allows for the last 100 alarm conditions to be viewed. A Date/Time stamp and text description of each alarm condition in the history will be available.
- S. A System Status screen will detail current outdoor, hydronic system and control variable values. The status screen will also display enable/disable and firing rate information for each of the boilers in the hydronic loop.
- T. Trending of the supply temperature, system setpoint and outdoor temperature will be displayed to provide system operational history for tuning of the PID and lead/lag parameters.
- U. The sequencing system shall monitor and display the individual boiler stack temperatures and advise the owner when the boilers need to be taken off line for cleaning and maintenance.
- V. The boiler sequencing system will have the ability to communicate to a Building Management System via a single network access point using multiple protocols including Modbus RTU, BACnet, LonWorks or N2. Standard point mapping will be provided with the boiler sequencing system. Selection of ModBus serial connectivity (RS-232/RS-485) and baud rate will be field-adjustable using a configuration screen on the boiler sequencing system. Selection of BACnet MS/TP or IP shall be field adjustable through a dip-switch setting. The ability to field adjust custom project points will be available through an easy to configure and freely distributed software package. Contractor shall coordinate this item with the ATC Contractor and existing/new BMS system.

- W. The boiler sequencing system shall have the ability for the internal control logic to be field-modified to meet system design changes that may arise during commissioning of the hydronic system or future system expansion. The control logic shall be field adjustable through a downloadable, freely distributed software package that does not require a licensing fee. Sequencing systems with fixed control logic that cannot be modified in the field will not be acceptable due to their inherent limitations.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Equipment and materials shall be installed in an approved manner and in accordance with the boiler manufacturers' installation requirements.
- B. The installer shall construct a level continuous concrete pad (min. 3-1/2 inches high) for the entire boiler system according to the boiler manufacturer's erecting instructions.
- C. Assemble unit sections and parts shipped loose or unassembled for shipment purposes. Follow manufacturer's installation recommendations and instructions.
- D. Install electrical control items furnished by manufacturer per wiring diagram provided by manufacturer.
- E. Complete water piping installation as required by manufacturer for operation of system.
- F. Provide air intake and exhaust piping, size and type as recommended by the manufacturer.
- G. Provide boiler manufacturer recommendation manifold pipe and fittings from each boiler to nearest floor drain or as indicated.

3.2 FIELD QUALITY CONTROL

- A. After boiler installation is completed, the manufacturer shall provide the services of a field representative for starting the unit and training the operator.
- B. Arrange with National Board of Boiler and Pressure Vessel Inspectors for inspection of boilers and piping. Obtain certification for completed boiler units, deliver to Owner, and obtain receipt.

END OF SECTION

SECTION 23 0140

DOUBLE WALL INSULATED BOILER BREECHING SYSTEM

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

PART 2 - PRODUCTS

2.1 DOUBLE WALL INSULATED BOILER BREECHING SYSTEM

- A. Factory built modular breeching shall be laboratory tested and listed by the Underwriters Laboratories, for use with building heating equipment burning gas, solid or liquid fuels as described in NFPA 211, which produce exhausted flue gases at a temperature not exceeding 1400 degrees under continuous operating conditions. UL listing shall be for both temperature and pressure. The breeching and the stack shall be sealed and pressure tight at the operating pressures of the boiler outlet
- B. The breeching and the stack shall be sealed and pressure tight at the opening pressures of the boiler outlet. Double wall vent system shall be as manufactured by Metal-Fab IPIC-2 pressurized system or approved equal.
- C. The double wall breeching shall have an inner gas carrying pipe of type AL294C stainless steel. The inner wall shall be .035" minimal thickness. The outer jacket shall be aluminum coated steel .25" nominal thickness for 6" through 24" diameters. A 2" thick layer of insulation shall occupy the space between the inner and outer walls, of the entire section of the breeching and stack.
- D. Inner pipe joints shall be sealed by use of V Bands and RTV Silicone Sealant.
- E. Roof penetrations shall be suitable for a non-combustible roof and shall be according to the Drawings. Provide stainless steel rain cap and any required firestops and flashing.
- F. The breeching shall be warranted against functional failure due to defects in material and workmanship for a period of ten (10) years from date of delivery. Functional failure is defined as any failure of the system or a component to perform its intended function without adverse leakage. During this period any defective system or component shall be repaired or replaced. Three actions are required by the Contractor to place the warranty in effect.
 - 1. Shop drawings showing the actual layout and drawn to scale shall be provided by the manufacturer. The system shall be installed as designed by the manufacturer and in accordance with the terms of the manufacturer's 12 year warranty.
 - 2. The inner diameter for breeching and stack shall be verified by the manufacturer's computer. The computer program shall be technically sound, shall follow ASHRAE calculation methods, and incorporate the specific flow characteristics of the inner pipe.
 - 3. The Contractor shall furnish the exact boiler model and operating characteristics to the factory representative. Operating characteristics shall include flue gas flow rate, temperature, velocity and available external static pressure at boiler outlet, at maximum and minimum levels of burner turndown range.
- G. Aluminized steel surfaces exposed to the elements shall be protected by a minimum of one base coat of primer and one finished coat of corrosion resistant paint such as series 4200 or 4300 as manufactured by Rust-o-leum. Paint to be supplied by the installing Contractor.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
DOUBLE WALL INSULATED BOILER BREECHING SYSTEM

H. Technical Services

1. The factory built modular breeching system shall be furnished and coordinated by a vendor organization which specialized in the application of packaged boiler systems, to assure design, installation and service coordination and to provide in-warranty and post-warranty unified responsibility for Owner, Architect, consulting Engineer and Contractor.
 2. Breeching vendor organization shall obtain boiler operating characteristic for the manufacturer as input for developing system configuration and parameters. Vendor shall transmit detailed stack/breeching design diagrams to Architect and consulting Engineer and shall provide periodic supervision of installation for the trade Contractor.
 3. Vendor shall provide inspection report to consulting Engineer, after completion of installation, verifying proper condition of breeching system.
- I. Equipment and components shall be in compliance with all standards of Air Movement and Control Association (AMCA), which apply to the various air moving equipment types, and with requirements of AMCA Certified Rating Program.
- J. Equipment shall be in compliance with ANSI/AMCA Standard 210-85 laboratory methods of testing fans.
- K. Compliance with ASHRAE Standard 111-1988 practices for measurement, testing, adjusting and balancing of building heating, ventilating, air conditioning and refrigeration systems.
- L. Submit shop drawings for approval that shall include dimension drawings, catalog cuts, performance and construction schedules.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- B. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

3.3 CLEANING

- A. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0190

PUMPS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

PART 2 - PRODUCTS

2.1 IN-LINE PUMPS

- A. Furnish and install where indicated on Drawings, ITT Bell & Gossett pumps of model and size indicated on Drawing schedule.
- B. The pumps shall be of the horizontal oil lubricated type specifically designed and guaranteed for quiet operation and suitable for minimum 125-psig working pressure.
- C. The pumps shall have a ground and polished steel shaft with a hardened integral thrust collar. The shaft shall be supported by two (2) horizontal sleeves bearing designed to circulate oil. The pumps are to be equipped with a watertight seal to prevent leakage. Mechanical seal faces to be carbon on ceramic. The motor shall be non-overloading at any point on pump curve.
- D. The motor shall be of the drip-proof, sleeve bearing, quiet operation, and rubber mounted construction.
- E. The Contractor shall furnish and install a magnetic starter for each booster pump with at least two (2) thermal overload protectors. The starter shall be equipped with manual reset buttons.

2.2 BASE MOUNTED PUMPS

- A. The pumps shall be model series 1510 as manufactured by ITT Bell & Gossett with performances noted on the Drawing schedule.
- B. The pumps shall be single stage; vertical split case design in cast iron and bronze construction. The pump's internals shall be capable of being serviced without disturbing piping connections or motor. The impeller shall be of the enclosed type, dynamically balanced and keyed to shaft and secured with a suitable locknut.
- C. Pump seal shall be standard single mechanical seal with carbon seal ring and Remite (or equal) seat. A replaceable shaft sleeve shall be furnished to cover the wetted area of the shaft under the seal of packing.
- D. The bearing frame assembly of the pump shall be fitted with re-greaseable ball bearings equivalent to electric motor bearing standards for quiet operation. The pump and motor shall be mounted on a common baseplate of heavy structural steel design with securely welded cross members and open grouting area.
- E. The pumps shall be factory tested at the operating conditions, thoroughly cleaned and painted with one coat of machinery enamel prior to shipment. A set of installation instructions shall be included with the pump at the time of shipment.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- B. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

3.3 CLEANING

- A. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0200

HYDRONIC SPECIALTIES

PART 1 - GENERAL

Applicable provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

PART 2 - PRODUCTS

2.1 AIR SEPARATOR

- A. Furnish and install as shown on Drawings, an external low velocity air separator unit consisting of a steel tank with screwed piping connections and a tapping to connect the air separator directly to the compression tank with screwed piping connections and a tapping to connect the air separator directly to compression tank.
- B. The unit is to be furnished with a steel base and constructed in accordance with ASME boiler pressure vessel code and stamped 125 psi working pressure. The air separator shall be ITT Bell & Gossett "Rolairtrol" or approved equal.

2.2 EXPANSION TANKS

- A. Furnish and install pre-charged bladder type expansion tank(s) of size and capacity as shown on Drawings. Tank shall have carbon steel shell and heavy-duty butyl rubber bladder.
- B. Tank to be constructed for (125 psig) working pressure and to be guaranteed leakproof by manufacturer. Tank to be stamped with "U" symbol and Form U-1 furnished denoting compliance with paragraph U-69 for Construction of Unfired Pressure Vessels Section VIII ASME.

2.3 AIR VENTS

- A. Install at all high points automatic air vents to eliminate air binding. All automatic air vents shall be approved heavy duty type equipped with petcocks and tubing for manual venting. All vents installed in coils, etc. shall be of manual key operated type.
- B. All vents concealed from view shall be accessible through access doors. Vents shall be by Hoffman, Anderson or ITT Bell & Gossett, 125 psig rated.

2.4 PRESSURE GAUGES

- A. Furnish and install pressure gauges on suction and discharge sides of each pump and as required to check operation of equipment; pressure gauges shall have 4-1/2" diameter dials, Ashton, Ashcroft or approved equal.

2.5 THERMOMETERS

- A. Install thermometers at all locations in piping system as noted on Drawings and as required to check system performance. Thermometers shall be installed at the supply and return of coils and 3-way diverting valves as manufactured by Trerice, Weksler or Moeller, with 4-1/2 inch face, cast aluminum case, chrome plated steel ring, white background with black embossed markings, glass window, stainless steel pointer, brass movement, 316 stainless steel bulb. Provide separable, universal angle sockets for all thermometers.

2.6 TRIPLE DUTY VALVES

- A. Furnish and install at each pump a nonslam check valve with a spring loaded disc and a calibrated adjustment feature permitting regulation of pump discharge flow and shut-off. Valves shall be designed to permit repacking under full line pressure.
- B. Unit shall be installed on discharge side of pump in a horizontal or vertical position with the stem up. Allow for minimum clearance of valve stem. This unit shall be cast iron body construction suitable for maximum working pressure of 175 psig and maximum operating temperature of 300 degrees F.
- C. All units shall be ITT Bell & Gossett Triple Duty Valve model, or approved equal.

2.7 SUCTION DIFFUSERS

- A. Furnish and install at each pump a suction diffuser. Units shall consist of angle type body with inlet vanes and combination Diffuser-Strainer-Orifice Cylinder with 3/16 inch diameter openings for pump protection. A permanent magnet shall be located within the flow stream and shall be removable for cleaning.
- B. The orifice cylinder shall be equipped with a disposable fine mesh strainer, which shall be removed after system startup. Orifice cylinder shall have a free area equal to five times cross section area of pump suction opening. Vane length shall be no less than 2-1/2 times the pump connection diameter. Unit shall be provided with adjustable support foot to carry weight of suction piping. Each Suction Diffuser to be ITT Bell & Gossett model, or approved equal.

2.8 COMBINATION BALANCING / SHUT-OFF VALVES (Circuit Sensors /Setters and Flow Meters)

- A. Provide Circuit Sensor/Setter balance valves as manufactured by Bell & Gossett or approved equal.
- B. Circuit Sensors: Furnish and install as shown on Drawings, a cast iron wafer-type flow meter designed for low pressure drop operation.
 - 1. The flow meter will be equipped with brass readout valves (with integral check valve) for taking differential pressure readings across the orifice of the flow meter.
 - 2. The flow meter shall be designed to operate at a maximum working pressure of 300 psig at 250 degrees F.
 - 3. The flow meter must be furnished with a calibrated nameplate for determining an accurate system flow rate.
 - 4. Each flow meter shall be ITT Bell & Gossett Circuit Sensor Flow Meter model no. OP.
- C. Circuit Setters: Furnish and install as shown on Drawings and with manufacturer's recommendations model no. CB calibrated balance valves.
 - 1. Valves to be designed to allow installing Contractor to pre-set balance points for proportional system balance prior to system start-up.
 - 2. All valves 1/2 inch to 3 inch pipe size to be of bronze body/brass ball construction with glass and carbon filled TFE seat rings.
 - 3. Valves to have differential pressure read-out ports across valve seat area. Read-out ports to be filled with internal EPT inert and check valve.
 - 4. Valve bodies to have 1/4 inch NPT tapped drain/purge port.
 - 5. Valves to have memory stop feature to allow valve to be closed for service and then reopened to set point without disturbing balance position. All valves to have calibrated nameplate to assure specific valve settings. Valves to be leak-tight at full rated working pressure. Valves 4 inch pipe size to be of cast iron body/brass vane construction with differential pressure read-out ports fitted with internal EPT insert and check valve.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
HYDRONIC SPECIALTIES

- D. Readout Meters: Provide a portable Readout Meter with provision for hanging, capable of indicating pressure differential across a system component. Unit to be complete with all necessary hoses, shut-off and vent valves, and carrying case. Reading range to be .5' to .16'. Read Out Kits to be ITT Bell & Gossett model no. RO-3.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- B. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

3.3 CLEANING

- A. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0280

VARIABLE FREQUENCY DRIVES

PART 1 - GENERAL

Applicable provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

PART 2 - PRODUCTS

2.1 VARIABLE FREQUENCY DRIVES

A. General

1. The variable Frequency Drive (VFD) shall be provided with diode rectifier bridge input, producing a fixed voltage DC bus and a three phase transistorized (IGBT's) inverter to convert three phase AC line power to adjustable three phase AC output power. The logic shall be microprocessor based to regulate the output voltage and frequency to control any standard, off-the-shelf AC motor.
2. The VFD logic shall have the capability to select a fan or pump output volts per hertz (V/Hz) ratio curve such that the energy used is optimized on centrifugal loads, linear V/Hz only is not acceptable.
3. The VFD logic shall be multi-motor suitable such that any quantity of motors shall operate on the VFD. The full load amperes of all the motors combined shall not exceed the full load amperage rating of the VFD.
4. For maintenance purposes, all components in the VFD shall be totally accessible from the front of the enclosure. Additionally, the VFD shall be totally operational with no motors connected.
5. The VFD and all optional equipment provided should be UL508 listed.
6. The VFD manufacturer shall have a total of ten years experience designing and manufacturing in the USA.
7. All components listed under this section of the specification shall be provided by the VFD manufacturer. Assemblers, packagers and distributors do not qualify.
8. The VFD shall be supplied by TB Wood's/PEC and shall be the E-FLOW series of VFD products.
9. The VFD and all equipment provided by the VFD supplier shall be provided with a two year warranty. In addition, the manufacturer shall offer a one time "no questions asked" in warranty replacement (excluding mechanical abuse).

B. Configuration

1. VFD shall be fully programmable and include a door-mounted keypad/display as standard equipment and shall have the following features and capabilities:
 - a. Alphanumeric back-lit LCD display.
 - b. Parameter displays will be alpha numeric and display messages in plain English.
 - c. Keypad for Programming, Diagnostics and operating controls including Forward, Reverse, Jog, Stop, Program, Shift, Enter, Local/Remote, Up/Down Arrows.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
VARIABLE FREQUENCY DRIVES

- d. Display programmable in one of four languages and custom engineering units.
- e. Program Lockout-User definable Security Access Code.
- f. Local/REM selection via keypad.
- g. Visual indication of Local/Remote status on the LCD display.
- h. LED indicators for Forward, Reverse, Jog, Stop (Keypad); Bus Charged, CPU activity (Control Board).
- i. UL and CUL approved Programmable Timed Overload.
- j. Full Four-Quadrant Torque Limit-Independently programmable, plus Autoboot Frequency Resolution to 0.01 Hz.
- k. The VFD shall have critical frequency rejection capability. Up to four programmable skip frequencies points shall be provided with an adjustable hysteresis band.
- l. Slip Compensation
- m. Program Sequencer for programmed execution of up to nine (9) sequential steps.
- n. The VFD shall have a fault log that will display the last three (3) faults and the elapsed time (in 1 hour increments) between the fault occurrence and the resetting of the drive.
- o. When a fault accrues the drive shall retain in memory the operating conditions at time of fault (frequency, torque, current, voltage, load, etc.) until the drive is reset.
- p. The drive shall have a parameter to store the field setup parameters and act as customer default setting.

2. The VFD will have the following features:

- a. RS 485 Serial Input/Out (SIO) Communications Link.
- b. Frequency Command Input Selections: 0-10 VDC, 0-2 VDC, 4-20 ma; 0-1 kHz or 0-10 kHz Pulse Train, Digital Keypad, RS485 Serial Communications Link.
- c. Auxiliary Relay Output programmable for one of eleven conditions.
- d. Fully protected for Output Short Circuit, Ground Fault, Under and Over Voltage, Electronic Motor overload, Torque Limit, Over-Temperature.
- e. UL Listed and CUL Certified.
- f. Voltage vector PWM.
- g. The VFD shall be totally digital, potentiometers may be used for speed reference, analog out trim and DB control.
- h. The VFD and all equipment provided per this section of specification shall comply with design standards of NEMA and IEEE and installed per NEC standards.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
VARIABLE FREQUENCY DRIVES

- i. The VFD shall have the ability to comply with the European Low Voltage and Electromagnetic Directives.

C. Performance Features

1. The VFD shall be provided with automatic and/or voltage boost providing up to 100% motor starter torque and shall automatically adapt to the load conditions as the motor starts.
2. The VFD shall have controlled acceleration and deceleration, separately adjustable from .1 to 600 seconds.
3. The VFD shall have torque limit control of acceleration and deceleration such that the time to do either is extended automatically according to the inertia of the load.
4. The VFD shall have two (2) sets of separately adjustable minimum and maximum frequency limits.
5. The VFD shall provide soft start by starting as zero hertz and linearly increasing to set speed.
6. The VFD shall have full load, full speed efficiency of 97% or greater and a part load, 50% speed efficiency of not less than 90%.
7. The VFD shall be able to start into a spinning motor turning in either direction and return it to set speed.
8. The VFD shall operate in a temperature range of 0-40 degrees C. and withstand humidity up to 95%, non-condensing.
9. The VFD shall operate up to an elevation of 1000 meters without reducing the VFD capacity.
10. The VFD shall be rated 100% continuous output current at the full load rating of the VFD.
11. The VFD shall have the ability to provide DC injection braking at an adjustable level and time period to permit rapid stopping of the load.
12. The VFD shall have an RS485 port for connection to an IBM compatible computer. Software shall be available to permit programming and storage of parameter setups for up to 32 VFD's. Software shall be available for the total number of VFD's provided in this project. The software shall be menu driven with lookup tables for each parameter variable. (Computers are supplied by the user). Security shall be provided via access codes.
13. The factory program and all field set up parameters and fault log shall be stored in a nonvolatile EEPROM.
14. The VFD shall have output phase-to-phase and phase-to-ground protection. An isolation transformer may not be utilized to provide phase-to-ground protection. Neither fuse blowing or component damage shall occur in the event of a ground fault.
15. Instantaneous over current and bus over voltage and under voltage protection shall be provided.
16. The VFD shall have an orderly shut down upon any output fault without fuse blowing or component damage. This includes microprocessor self test faults.
17. The VFD shall derive its control power from the main DC bus through a switch mode power supply.
18. The VFD shall operate to specified performance levels with the input power at + 15% or -20% of the VFD rated voltage.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
VARIABLE FREQUENCY DRIVES

19. The VFD shall include automatic restart after all fault conditions. The number of restarts shall be adjustable to 8 and include an adjustable time delay and adjustable time period for clearing the number of restart attempts. After counting to the number of selected restarts, the VFD shall require a reset with a door-mounted reset push-button.
20. The VFD shall have a parameter to record the total hours in use (elapsed time).
21. The VFD shall have a parameter to record the total hours power is applied.
22. The VFD shall have a thermal device mounted on the heat sink. The logic shall have a parameter setting that displays the heat sink temperature. The drive will shutdown on over temperature. The alarm is flagged as an over temperature trip.
23. The VFD shall have a parameter to set in a security code to prevent unauthorized entry into the parameter setup. When the security code is entered the user shall have ten minutes of free time before the code has to be reentered.
24. The VFD shall have dynamic breaking in order to minimize the time required to stop large inertial loads.
25. The VFD shall have the capability to adjust the carrier frequency to 16 kHz to minimize acoustic noise in the motor and maximize performance.

D. Interface Requirements

1. Door mounted devices shall include a Hand-Off-Auto switch and hand speed pot. Hand mode shall allow running the VFD at the hand speed pot setting. In the Off mode the VFD shall be stopped. In Auto mode the VFD shall run at the speed provided by an external speed reference source and start and stop through an external 2 wire or as an option 3-wire source.
2. Additional operator devices include power-on, run and VFD fault LED's mounted on the keypad. The VFD fault reset push-button shall be door mounted.
3. A door mounted digital touch-pad shall be provided which provides diagnostics, parameter set up, and display all operating parameters. Operating parameter shall include frequency, output amps, output volts, and % load. Default display of VFD running frequency and % load shall be provided.
4. The keypad shall indicate a VFD fault by a flashing LED on the stop button and display the type of fault on the LCD readout.
5. The VFD shall be able to accept a 4 to 20 ma, 0-10 VDC, 0 to 2 VDC analog signal or 0 to 1 kHz, 0 to 10 kHz pulse train for speed setting.
6. The VFD as an option shall provide two (2) analog outputs one 4 to 20 ma VDC and the other 0 to 12 VDC and can be programmed to be proportional to frequency, volts, current, load or torque.
7. The VFD shall have as standard a fault contact it shall be form C rated 110 VAC, 1 amp.
8. The VFD as an option shall provide four (4) output form C contacts rated for 110 VAC, 1 amp and programmable for up to eleven (11) inverter states.
9. Upon loss of the remote speed reference the VFD shall go to the minimum speed setting.

E. Bypass

1. An automatic contactor bypass shall be provided for automatic transfer of the motor to the AC lines from the VFD upon fault of the VFD. The bypass shall consist of two mechanically and electrically interlocked, UL rated contactors with a common motor over load relay.
2. The bypass shall be provided with a door interlocked disconnect. Door mounted devices include on-VFD light, on-line light, motor fault light, VFD-Line and a maintenance selector switch. The motor trip light shall activate upon either motor overload or an optional, motor mounted, over temperature. Either occurrence shall stop the motor in any operating mode.
3. The start and stop push-buttons mounted on the bypass shall start and stop the motor from the AC lines when the VFD-Line selector switch is in the "Line" position. The only time the motor will operate on the AC line and the VFD-Line selector switch is in the VFD position is when a VFD fault occurs. The maintenance-Normal selector switch shall control the VFD contactor.
4. The bypass shall be modified for Fire Department purge system.

F. Submittals, Parts, Training, Acceptable Manufacturer and Start-Up

1. The VFD manufacturer shall provide a complete set of drawings, dimensional drawings, interface drawings, and catalog cuts for all VFD's provided.
2. Spare parts shall consist of at least one set per VFD type provided and one for each set of five identical VFD's provided as follows: a logic board, a base driver board, a complete set of AC line and control fuses, one power transistor block, and an input power block.
3. Acceptable Manufacturer shall be TB Wood's E-FLOW series or approved equal.
4. The VFD manufacturer shall provide the services of a certified technician for start-up. The start-up technician shall provide one day (8 hours minimum) of training for the user.

PART 3 - EXECUTION

3.1 INSPECTION

- B. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- C. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- D. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

3.3 CLEANING

- B. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0320

HOT WATER UNIT HEATERS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

PART 2 - PRODUCTS

2.1 HOT WATER UNIT HEATERS

- A. Furnish and install where shown on the Drawings model as manufactured by Sterling Co. or approved equal and shall be of sizes noted on the Drawing.
- B. Casing shall be 20 gauge die-formed steel. Casing substrates shall be prepared for finishing with a hot wash, iron phosphatizing clear rinse, chromic acid rinse and oven drying. Paint finish shall be of lead-free, chromate-free, alkyd melamine resin base and applied with an electrostatic two-pass system.
- C. Coil elements and headers shall be of heavy wall drawn seamless copper tubing. Element tubes shall be brazed into extruded header junctions. Pipe connection saddles shall be of cast bronze. Aluminum fins shall have drawn collars to assure permanent bond with expanded element tubes and exact spacing.
- D. Motors shall be totally enclosed, resilient mounted with class B windings. All motors shall be designed for horizontal mounting.
- E. Fans shall be of the aluminum blade, steel hub type designed and balanced to assure maximum air delivery, low motor horsepower requirements and quiet operation. Blades are spark proof. Fan guards shall be welded steel, zinc plated or painted.
- F. Units shall be equipped with horizontal, individually adjustable louvers. Vertical louvers for 4-way air control shall be available as an optional extra.

PART 3 - EXECUTION

3.1 INSPECTION

- C. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- E. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.

3.3 CLEANING

- C. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0410

PIPING, FITTINGS, VALVES AND NOTES (HOT WATER)

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements shall govern work in this section. Submit shop drawings for checking and approval.

1.1 PIPING NOTES

- A. The Contractor shall erect all pipe, fittings, valves, hangers, anchors, expansion joints and all accessories specified, indicated on the Drawings or required to assure proper operation of all piping systems installed under this Contract. All piping shall be maintained at a proper level to assure satisfactory operation, venting and drainage. Piping and valves in any locality where possible shall be grouped neatly and shall be run so as to avoid reducing headroom or passage clearance.
- B. All piping shall be new and of the material and weight specified under various services. Steel and wrought iron pipe 2" and larger shall be seamless or lap welded. All piping shall have the maker's name and brand rolled on each length of pipe.
- C. All piping, fittings, valves and strainers shall be cleaned of grease, dirt and scale before installation. All temporary pipe openings shall be kept closed during the performance of the work. The ends of all piping shall be reamed smooth and all burrs removed before installation.
- D. All piping shall be cut accurately to measurements taken on the job. Offset connections shall be installed alignment of vertical to horizontal piping and where required to make a true connection and to provide for expansion. Bent or sprung pipe shall not be installed where shown on Drawings and where necessary to provide for expansion of piping. Cold spring hot lines one-half estimated distance of maximum expansion. Suitable pipe anchors shall be installed where shown or required.
- E. Piping connections shall have unions where necessary for replacement and repair of equipment. Gate valves and controls valves shall be installed where shown and where necessary for proper operation and service.
- F. Vertical piping shall be plumb and horizontal piping shall be parallel to walls and partitions. Piping shall be supported as required to prevent the transmission of noise and vibration.
- G. Work shall include all pipe, fittings, offsets and requirements for the installation of piping of other work including ducts and conduit. Reducing fittings shall be used where pipe changes size. All piping shall be installed with ample clearance to center accurately in sleeves through floors, and walls and partitions.
- H. Piping shall be downgraded to drain connections at low points and upgraded to vent connections at high points unless otherwise noted. Drain connections shall be valved and piped to a floor drain. Vent connections on mains shall be equipped with air vent valves fitted with a copper tube drip line extended to a drain outlet. Vent connections on branches and equipment shall be fitted with key type manual vent cocks.
- I. Drain piping shall be installed from all equipment as required. The Contractor shall extend drain piping and turn down over floor drains.

PART 2 - PRODUCTS

2.1 PIPING (ABOVEGROUND)

- A. All piping installed under this Section of the Specifications shall be in accordance with the following schedule.
 - 1. All piping, except where indicated differently, (i.e. underground piping) shall be standard weight black steel pipe Schedule 40, Grade A53, black steel. Pipe 2" and smaller, cast iron screwed fittings. Pipe 2-1/2" and larger, steel welding fittings. Pipe and fittings as manufactured by National, Wheeling, Bethlehem or equal, manufactured in accordance with ASTM current edition. All pipes must be reamed before installation.
 - 2. Where the Contractor elects to use copper piping, it shall be rigid Type "L" copper, Chase, Anaconda or approved equal. Fittings shall be wrought copper, Nibco, Anaconda, Mueller or approved equal. Where copper piping is used, make all additional provisions for expansion. All condensate piping shall be Type "M" copper, rigid, full size of unit drain tapping, or larger as shown on Drawings.
 - 3. All drainage pipe lines, 2" larger except where galvanized screw pipe is shown on the Drawings or specified hereafter, shall be extra heavy cast iron soil pipe and fittings.
- B. Piping installation shall be arranged for draining through accessible valves at low points.
- C. Threaded short and close nipples shall be Schedule 80, extra heavy weight of the same material as pipe in system in which they are installed.
- D. All bare copper pipe, tubing and fittings shall be cleaned with steel wool and all excess solder shall be removed.

2.2 VALVES

- A. All valves, unless specified or noted otherwise, shall be designed for a working pressure of not less than 200 psi water or 125 psi steam with name and pressure rating of valve cast in body. All valves shall be of the same manufacturer, unless specified otherwise. Valves for cut-off shall be gate valves, unless otherwise specified.
- B. All valves of same manufacturer: similar to Jenkins Bros., Walworth, Kennedy or approved equal.
- C. Four inch and larger, flanged; smaller sizes, screwed.
- D. All Gate and Globe valves shall be installed with handle in an upright position.
- E. The Contractor shall furnish and install all valves shown on Drawings and all valves that are necessary for proper operation and maintenance of systems and equipment. All piping connections to each piece of equipment and all branch connections to mains shall have cut-off valves.
- F. The following schedule of valves for steam condensate, hot water, etc. is based on Jenkins Brothers, Inc. catalog numbers (except as noted); equivalent Lukenheimer, Walworth, O-I-C, Crane Fairbanks Company valves will be acceptable.
- G. Ball Valves
 - 1. 1/4" to 2-1/2" rated for 600 psi wog, with brass body, chrome plated brass ball, virgin PTFE seats, and full port with threaded or solder connections.
 - 2. 2-1/2" and larger rated for 200 psi with carbon steel body, stainless steel full port ball, RTFE seats, lever operated to 4" gear operated 6" and above, with flanged end connections.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PIPING, FITTINGS, VALVES AND NOTES (HOT WATER)

H. Gate Valves

1. Up to 2" : Bronze gate solid wedge, inside screw traveling stem union bonnet, -Fig. 47U
2. 2-1/2" and 3" : Iron body, bronze-mounted gate, solid wedge, OS&Y rising stem, -Fig. 650-A
3. 4" and larger: Iron body, bronze-mounted gate, solid wedge, OS&Y rising stem, -Fig. 651-A

I. Globe Valves

1. Up to 2" : Bronze body, regrinding seat ring and plug, union bonnet, -Fig. 546P
2. 2-1/2" and 3" : Iron body, bronze-mounted globe and angle, regrinding disc and seat ring, OS&Y - Fig. 613
3. All gate valves 6" and larger: Fitted 3/4" by-pass globe valve.

J. Plug Valves

1. Up to 2" : Lubricated, semi-steel short pattern wrench operated, -Fig. 142
2. 2-1/2" and larger: Lubricated, semi-steel short pattern wrench operated, -Fig. 143
3. Similar to Rockwell Mgd. Co., Jenkins, Kennedy or approved equal.

K. Butterfly Valves used for chilled water, condenser water and hot water shall be the following:

1. 2-1/2" to 12" rated for 175 psi bubble tight close off, 14" and larger for 150 psi close-off.
2. Full lug cast iron body, aluminum bronze disc, stainless steel stem EPDM peroxide cured seat.
3. 2-14" to 6" valves to be equipped with 10 position notch plate and lever lock handle. 8" and larger with handwheel gear operator.
4. On installation, valves to be in full open position when flange bolts are tightened and stem in a horizontal position except when equipped with a chainwheel gear operator.
5. Provide chain wheel gear operator on all valves installed 7 feet or higher.
6. Valves to be designed with replaceable seat and parts kits.
7. Valve to be Bray series 31, Dezurik 637 or Demco.

L. Check Valves

1. 150 psi WSP class.
2. Up to 2" : Bronze, regrinding bronze disc, screw-in cap, -Fig. 762A
3. 2-1/2" and 3" : Iron body, bronze mounted regrinding bronze seat ring and disc, -Fig. 623
4. 4" and larger: Iron body, bronze mounted regrinding bronze seat ring and disc, -Fig. 624

M. Drain Valves: All low points shall have drain valves, with hose ends. Where 1/2" and 3/4" sizes are indicated, "Standard" hose end drain valves shall be used. Provide brass hose end drain caps at each drain valve. Where larger than 3/4" drains are shown, gate valve shall be used. Provide brass nipples and reducer from drain valve size to 3/4" terminating with 3/4" hose end drain valve and cap.

2.3 FITTINGS

A. Nipples

1. All nipples shall have clean cut threads and shall be made from new pipe, standard weight for all lengths, except that close and shoulder nipples shall be extra heavy.
2. Fittings - 2-1/2 and Smaller: All fittings shall be standard weight steam pattern gray cast iron, Grinnell, Stockholm or equal approved.
3. Fitting - 3" and Larger: The Contractor has the option to use screwed, flanged or welded fittings so long as all ASME requirements are met.

B. Joints and Unions

1. Threaded joints shall be full and clean cut. The ends of pipe shall be reamed to the full inside diameter, all burrs shall be removed and no more than three threads shall be exposed beyond fittings when made up. Joints shall be made up tight with graphite base pipe joint compound. Exposed threads of ferrous pipe shall be painted with acid-resisting paint after caulking, lampwick or other material will be allowed for correction of defective joints.
2. Flange joints shall be made up perfectly square and tight. Screwed flanges and loose flanges shall be cast iron and welding flanges shall be steel. Flanges shall be faced true and bolted up tight with 1/16" Carlock ring type gasket.
3. Bolts shall be high quality steel with hexagon nuts and heads. The Contractor shall apply grease to threads of bolt.
4. Welded joints in piping shall be by the electric or oxyacetylene process using welding rods if the characteristics similar to pipe material and as recommended by the pipe manufacturer and shall be done in accordance with the ASME Code for pressure piping. Welding shall be done by qualified welders under the requirements of the ASME Boiler and Pressure Vessel Code.
5. The pipe lengths shall be aligned with welding rings and the abutting pipe ends shall be concentric. Prior to welding, the groove and adjacent surfaces shall be thoroughly cleaned of all grease, scale, or rust. During welding, all slag, or flux remaining on the bead shall be removed before laying down the next bead. The welding metal shall be thoroughly fused with the base metal at all sections of the weld. Short lengths of pipe may be beveled on the job with oxyacetylene torch, provided all scale and oxides are removed.
6. Joints shall be butt-welded, single V-type. All fittings shall be steel welding fittings. Elbows and fittings formed with coupling or welded cut pipe sections shall not be acceptable.
7. Bonney Weldolets or welding saddles may be used for branch connections, which are less than one-half the size of the main to which they connect.
8. Ground Joint Unions, Flange Connections, Reaming & Filling Ground joint unions shall be 200 lb. s.w.p. for brass. Flanges shall be 150 lb. s.w.p. for brass, 125 lb. s.w.p. for cast iron.
9. Ground joint unions of flanges shall be used only on exposed accessible piping. Where concealed, right and left nipples and couplings must be used. Where flanged connections are used, full size gaskets must be inserted.

- ### C. Threads:
- Shall be standard, clean cut and tapered. All piping shall be reamed free from burrs. All piping shall be kept free of scale and dirt. Caulking of threads will not be permitted. All piping shall be threaded and made up in accordance with the current edition of the ASA Standard Specifications for pipe threads.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PIPING, FITTINGS, VALVES AND NOTES (HOT WATER)

D. Unions

1. Unions for use on ferrous pipe 2" and smaller shall be malleable iron with brass to iron ground joint spherical seat and threaded connections. Unions 2 1/2" and over shall be flanged type with gasket.
2. Unions for copper tubing shall be cast bronze conforming to ASA B16. The Contractor shall furnish adapters where required for copper pipe.
3. Where copper pipe connects to ferrous pipe or metals, the Contractor shall furnish EPCO isolating type dielectric unions. Plastic type isolating bushings are not acceptable.
4. Unions shall be installed wherever necessary for repair or replacement of equipment, valves, strainers, etc. Final connections to equipment shall be made in a manner that will permit removal without cutting of pipelines.

E. Solder

1. All sweat joints shall be made up with 95/5 solder.
2. Solder shall be National Lead or approved equal. Flux shall be non-toxic and non-corrosive.
3. All copper tubing ends shall be reamed, filed and cleared of burrs and rough edges. All pipes shall be reamed after cutting and threading.

F. Expansion

1. The entire piping installation shall be installed with adequate provision for expansion. No rigid connections will be permitted.
2. Branches shall be of sufficient length and have 3 elbow swings to allow for pipe expansion.
3. Provide expansion joints, guides and anchors equal to "Metra-Flex MetraLoops" where indicated on Drawings or where necessary for proper expansion compensation. Submit shop drawing.
4. Any breaks in the piping within the guarantee period due to improper provision for expansion must be replaced at the expense of this Contractor, and the conditions corrected to prevent future recurrence.
5. Any damages to surrounding areas and equipment due to this failure shall also be repaired and paid for at the expense of the Contractor.
6. Joints to have 150 psi rating, ANSI-B16.5 with liner and cover.

2.4 PIPING SLEEVES

- A. Furnish sleeves built into place for all piping passing through walls, floors or building construction. Sleeves, not less than 1/2" larger in diameter than piping and its covering, if any, and extending full depth of construction pierced. Pack sleeves through walls/floors in accordance with Underwriters' Requirements.
- B. Sleeves piercing exterior walls, integral waterproofed walls shall be standard weight steel piping. Furnish welded center flange buried in construction for sleeves through exterior walls below grade. At exterior walls, make pipes watertight in sleeves using modular link type pipe wall penetration seals, Metraflex or equal. The seal shall consist of interlocking elastomer and shall be suitable for installation into core drilled wall openings or into a wall sleeve. All other sleeves: Galvanized sheet steel with lockseam joints, #22 USSG for 3" or under. Sleeves for piping 4" and larger, #18 USSG.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PIPING, FITTINGS, VALVES AND NOTES (HOT WATER)

- C. Pipes passing through interior membrane waterproofed floors, cast iron flashing sleeve, with integral flashing flange and clamping ring, similar to Josam Series #1880. Adjust sleeves to floor construction with steel or wrought iron pipe nipples top and bottom, extending 3" above finished floor. Burn & J.R. Smith are equal.
- D. Pipes passing through membrane waterproofed walls, cast iron flashing sleeve with internal flashing flange and clamping ring similar to Josam Series #1870. Make pipes watertight in sleeves using modular link type pipe wall penetration seals, Metraflex or equal. The seal shall consist of interlocking elastomer and shall be suitable for installation into core drilled wall openings or into a wall sleeve.
- E. For flashing sleeves specified in Pars. C and D, lead flashing extended at least 10" around flashing sleeves, securely held in place by clamping device.

2.5 PIPING ENCLOSURES

- A. Where concealed piping in ceilings and wall of finished spaces is not possible vertical or horizontal metal piping enclosures equal to "Sterling" model PCH (horizontal) or PCHV (vertical). Provide all required hangers, supports, corners, brackets, etc. color per Architect.

PART 3 - EXECUTION

3.1 GENERAL NOTES - PIPING NOTES, DRAINING, VENTING AND MISCELLANEOUS WATER SPECIALTIES

- A. Piping shall be installed as indicated on Drawings. Elevations and dimensions are indicated as a guide only and are subject to change with actual job conditions.
- B. Except for drainage piping, which shall pitch down with flow, mains shall pitch upward or be installed dead level as indicated. Horizontal runs shall be parallel to walls.
- C. In general, all branch connections shall be top of bottom 45 degree or 90 degree, pitching up or down from mains.
- D. Where indicated, flexible connectors shall be installed. All final connections to equipment, pumps, units, etc. shall have companion flanged, flange unions or ground joint unions. (125 lbs.)
- E. All piping shall be adequately supported with approved type hangers so as to prevent absolutely any sagging of lines, or any undue strain on pipes or fittings. All pipe lines shall be capped during construction to prevent entry of dirt or other foreign material. All piping lines after erection shall be blown or flushed out to render the piping system as clean as possible before system water is added for operation.
- F. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.
- G. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- H. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
PIPING, FITTINGS, VALVES AND NOTES (HOT WATER)

3.2 DRAINING

- A. All low points shall have drain valves with hose ends. Where 1/2" and 3/4" sizes are indicated, "Standard" hose end drain valves shall be used. Provide brass hose end drain caps at each drain valve. Where larger than 3/4" drains are shown, gate valve shall be used. Provide brass nipple and reducer from drain valve size to 3/4" terminating with 3/4" hose end drain valve and cap.

3.3 VENTING (For Hot Water)

- A. All high points in piping shall be vented automatically with float vents. At all high points of piping, whether specifically indicated or not, provide Maid-o-Mist or B&G No. 7 or 27 Air Eliminators with shut off cock, auxiliary key vent and copper tubing overflow carried to floor along wall as indicated or directed.

3.4 WATER SPECIALTIES

- A. Air Vents: Install at all high points automatic air vents to eliminate air binding. All automatic air vents shall be approved heavy duty type equipped with petcocks and tubing for manual venting. All vents installed in coils, etc. shall be of manual key operated type. All vents concealed from view shall be accessible through access doors. Vents shall be by Hoffman, Anderson or Bell & Gossett, 125 psig rated.
- B. Pressure Gauge: Furnish and install pressure gauges on suction and discharge sides of each pump and as required to check operation of equipment; pressure gauges shall have 4-1/2" diameter dials, Ashton, Ashcroft or approved equal.
- C. Install thermometers at all locations in piping system as noted on Drawings and as required to check system performance. Thermometers shall be installed at the supply and return of coils and 3-way diverting valves as manufactured by Terice, Weksler or Moeller, with 4-1/2 inch face, cast aluminum case, chrome plated steel ring, white background with black embossed markings, glass window, stainless steel pointer, brass movement, 316 stainless steel bulb. Provide separable, universal angle sockets for all thermometers.

END OF SECTION

SECTION 23 0420

SUPPORTS, SLEEVES AND PLATES

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. This Contractor shall furnish and install all plates, hangers and supports for his equipment including piping, headers, fans expansion tank, ductwork, etc.
- B. All ductwork, piping and equipment shall be hung or supported from structural members only.

PART 2 - PRODUCTS

2.1 PIPING, DUCTWORK AND EQUIPMENT

- A. All piping shall be supported from building structure in a neat and workmanlike manner wherever possible, parallel runs of horizontal piping shall be grouped together on trapeze hangers. Vertical risers shall be supported at each floor line with steel pipe clamps. Use of wire perforated metal to support pipes will not be permitted. Hanging pipes from other pipes will not be permitted.
- B. Necessary structural members, hangers and supports of approved design to keep piping in proper alignment and prevent transmission of injurious thrusts and vibrations shall be furnished and installed. In all cases where hangers, brackets, etc., are supported from concrete construction, care shall be taken not to weaken concrete or penetrate waterproofing.
- C. All hangers and supports shall be capable of screw adjustment after piping is erected. Hangers supporting piping expanding into loops, bends and offsets shall be secured to the building structure in such a manner that horizontal adjustment perpendicular to the run of piping supported may be made to accommodate displacement due to expansion. All such hangers shall be finally adjusted, both in the vertical and horizontal direction, when the supported piping is hot.
- D. Pipe hangers shall be as manufactured by Grinnell, whose catalog numbers are given herein, or equivalent Carpenter and Paterson, or F&S Mfg. Co.
- E. Piping shall be supported as follows unless otherwise indicated on the Drawings:
 - 1. Heating piping shall be 1-1/2 " and smaller Fig. #260 adjustable clevis hanger. 2" and larger Fig. #174 one-rod swivel roll hanger.
 - 2. Two-rod hangers shall be used for piping close to the ceiling slab or where conditions prohibit use of other hanger types.
 - 3. Anchors for hanger rods shall be Phillips "Red Head" self-drilling type. Anchors shall be placed only in vertical surfaces.
 - 4. Spacing of pipe supports shall not exceed 8 feet for pipes up to 1-1/2" and 10 feet on all other piping.
 - 5. Hangers shall pass around insulation and a 16 gauge steel protective cradle; 12" long shall be inserted between hangers and insulation. Insulation under cradle shall be high density calcium silicate or approved equal to prevent crushing.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUPPORTS, SLEEVES AND PLATES

6. All piping shall be supported to allow free movement where expanding or contracting. Pipe shall be anchored as required or directed.
 7. All lateral runs of piping shall be securely supported on hangers, rolls, brackets, etc. and in manner to allow for proper expansion and elimination of vibration.
 8. 2" and smaller pipe, where run on walls, shall be supported on wrought iron "J" hook brackets with anchor bolts.
 9. All horizontal pipes, where run overhead or on walls, shall be supported as follows unless otherwise indicated: On adjustable steel clevis type hangers suspended on hanger rods, pipe sizes up to and including 4".
- F. Space limitations in hung ceilings spaces and conditions in other locations may require use of other type of hangers than those specified above. Suitable and approved pipe hangers shall be provided for such job conditions.
- G. All supports shall be fastened to structural members or additional steel supports furnished by this Contractor.
- H. Hanger rods shall be steel, threaded with nuts and lock nuts sizes in accordance with the following schedule:
- | <u>Pipe Size</u> | <u>Rod Size</u> |
|-------------------------|-----------------|
| 3/4" to 2" inclusive | 3/8" |
| 2-1/2" and 3' inclusive | 1/2" |
| 4" and 5" inclusive | 5/8" |
| 6" | 3/4" |
| 8" to 12" inclusive | 7/8" |
- I. Hangers for copper tubing shall be tacked up with formed lead sheet on which tubing or pipe shall be placed.
- J. Where pipes pass through masonry, concrete walls, foundations, or floors, this Contractor shall set sleeves as are necessary for passage of pipes. These sleeves shall be of sufficient size to permit insulation where required to be provided around pipe passing through. This Contractor shall be responsible for exact location of these sleeves.
- K. Sleeves shall not be used in any portion of building where use of same would impair strength of construction features of the building. Inserts for supporting lateral pipes and equipment shall be placed and secured to form work, and all sleeves inserts locations shall be thoroughly checked with Architect so as not to conflict with other trades.
- L. Where pipes pass through floor or walls, they shall be provided with chromium plated escutcheons.
- M. Anchor horizontal piping where indicated and wherever necessary to localize expansion or prevent undue strain on branches. Anchors: Heavy forged construction entirely separate from supports.
- N. Anchor vertical piping wherever indicated and wherever necessary to prevent undue strain on offsets and branches. Anchors, unless otherwise noted: Heavy steel clamps securely bolted and welded to pipes. Extension ends shall bear on building construction.
- O. Ducts shall be hung with 1" x 1/8" metal straps. When width of duct is less than 48", hangers shall be fastened to side of ducts. Auxiliary steel supports that may be required for all mechanical equipment shall be furnished and installed by this Contractor. All operating equipment including fans, piping, etc. shall be supported so as to produce minimum amount of noise transmission.
- P. Refer to "General Conditions" as well.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- B. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

3.3 CLEANING

- A. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0430

INSULATION AND COVERINGS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 DESCRIPTION OF WORK

- A. Furnish insulation for all piping, equipment and sheetmetal work as noted.
- B. Insulate no piping, ducts or equipment until tested and approved for tightness. All piping and ducts shall be dry when covered. Where existing insulation has been damaged, altered or removed during the course of the work, it shall be replaced with new insulation in a neat manner to match the adjacent insulation.
- C. All insulation must be done by an approved Sub-Contractor or by mechanics skilled in this line of work.
- D. Fire hazard classification shall be 2550 per ASTM E-84, NFPA 255 and UL 723. Insulation shall be rated non-combustible type classified flame spread - 25, smoke developed - 50.

PART 2 - PRODUCTS

2.1 DUCTWORK (INDOOR)

- A. All supply, outside air intake and exhaust (on discharge side of fan) and return (in unconditioned spaces) ductwork shall be covered with fiberglass with aluminum foil vapor barrier. All joints shall be lapped so maximum coverage is achieved.
- B. All insulated ductwork shall be insulated with fiberglass board insulation with canvas finish in areas where ductwork is exposed.
- C. Insulation thickness shall be in accordance with the latest edition of the New York State Energy Conservation Construction Code.
- D. Thermal acoustic lining of ductwork where indicated shall be 1" thickness fiberglass unless otherwise noted. The lining shall have a mat facing and shall meet the Life Safety Standards as established by NFPA 90A and 9B and conform to the requirements of ASTM C 1071.
- E. Insulate Kitchen exhaust ductwork per NFPA requirements (minimum 2" calcium silicate insulation) and all other agencies having jurisdiction.

2.3 PIPING / EQUIPMENT (INDOOR)

- A. All new or altered heating and chilled water system supply and return piping shall be covered with Manville Micro-Lok or equal approved fiberglass insulation with all service (factory applied) vapor retardant jacket. Seal with type H mastic.
- B. Fittings shall be insulated with same material and thickness as adjoining pipe insulation and shall be pre-molded fittings or mitre cut segmental insulation wired on. Over the insulation, apply a wrapper of OCF glass cloth sealed with type H mastic. Apply aluminum bands on pipe covering in addition to self-sealing feature.
- C. Insulation Material: Molded fibrous glass insulation, density not less than 4 lbs. per cubic foot.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
INSULATION AND COVERINGS

- D. Insulation Thickness: Shall be in accordance with the latest edition of the New York State Energy Conservation Construction Code.
- E. Jacket and Finish: White flame retardant type, meeting all requirements of "Fire Hazard Classification" of NFPA, similar to "Fiberglass" Type FRJ, Insul-Coustic, Johns-Manville or approved equal.
- F. Insulation and Finishes for Fittings, Valves and Flanges
1. Valves, fittings and flanges other than vapor seal insulation: Insulated in same manner and same thickness as piping in which installed.
 2. Use pre-molded sectional covering where available; otherwise use mitered segments of pipe covering.
 3. Obtain written approval prior to using other than molded sectional covering.
- G. Vapor seal Insulation for Valves, Fittings and Flanges: Same as above, except joints sealed with vapor barrier adhesive and wrapped with glass mesh tape. Each fitting shall be finished with two coats of vapor seal mastic adhesive.
- H. Jacket and Finishes: Exposed fittings - 6 oz. canvas jacket adhered with lagging adhesive.
- I. Concealed fittings: Standard weight canvas jacket adhered with lagging adhesive and with bands of 18 gauge copper coated steel - 2 bands at elbows, 3 at tee.
- J. Insulation at Pipe Hangers
1. Where shields are specified at hangers on piping with fibrous glass covering, provide load bearing calcium silicate between shields and piping as follows:
 - a. For pipe covering without vapor barrier jacket, furnish at each shield 12" - long calcium silicate section with canvas section with canvas jacket continuous between shield and insulation.
 - b. For pipe covering with vapor barrier jacket, furnish at each shield 12" - long vapor barrier jacket section with section of fibrous glass replaced with section of calcium silicate. Vapor barrier jacket, continuous between shield and insulation for continuous vapor barrier.
- K. Condensate drain and refrigerant piping shall be insulated with 1/2" Imcosheild un-split polyolefin insulation.
- L. Equipment
1. Secure fibrous glass block or board insulation in place with wire or galvanized steel bands.
 - a. Small Areas: Secure insulation with 16 gauge wire on maximum 6" centers.
 - b. Large Areas: Secure insulation with 14 gauge wire or .015" thick by 1/2" wide galvanized steel bands on maximum 10" centers. Stagger insulation joints.
 - c. Irregular Surfaces: Where application of block or board insulation is not practical insulate with insulating cement built-up to same thickness as adjoining insulation.
 2. Fill joints, voids and irregular surfaces with insulating cement to a uniform thickness.
 3. Stretch wire mesh over entire insulated surface and secure to anchors with wire edges laced together.
 4. Apply finishing cement, total of 1/2" thick, in 1/4" thick coats. Trowel second coat to a smooth hard finish.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
INSULATION AND COVERINGS

- 5. Neatly bevel insulation around handholes, cleanouts, ASME stamp, manufacturer's nametag and catalog number.
- M. Insulated Covers for Pumps: Do not extend pump insulation beyond or interfere with stuffing boxes or interfere with adjustment and servicing of parts regular maintenance or operating attention.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect equipment space locations before beginning installation. Verify that the space is correct for entry and access. Do not proceed with installation of the equipment until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of equipment, accessories and components.
- B. All heating, ventilating and air conditioning equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.

3.3 CLEANING

- A. Clean interior and exterior surfaces promptly after installation of equipment and components. Take care to avoid damage to protective coatings and finishes. Remove excess sealants, lubrication, dirt and other foreign substances.

END OF SECTION

SECTION 23 0460

AUTOMATIC TEMPERATURE CONTROLS

PART 1 - GENERAL

Applicable provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 QUALIFICATIONS OF BIDDER

- A. All bidders must be building automation contractors in the business of installing direct digital control building automation systems for a minimum of 10 years.
- B. All bidders must have an office in the within 50 miles of jobsite.
- C. All bidders must be authorized distributors or branch offices of the manufacturers specified.
- D. All bidders must have a trained staff of application Engineers, who have been certified by the manufacturer in the configuration, programming and service of the automation system.

1.2 SCOPE OF WORK

- A. This Contractor shall furnish an electronic system of temperature controls as manufactured by Andover or approved equal. The District has standardized on this manufacturer. All submitted controls shall be directly compatible with existing hardware and software without patch panels or translators or any kind. The ATC Sub-Contractor shall be subject to the District's approval.
- B. This Contractor shall review and study all HVAC Drawings and the entire Specification to familiarize himself with the equipment and system operation and to verify the quantities and types of dampers, operators, alarms, etc. to be provided.
- C. This Contractor shall be responsible for the integration of all new equipment (including, boilers, pumps etc.) into the ATC system for seamless operation. HVAC Contractor shall include factory controls with appropriate protocol (BACnet, LonMark, etc.) to allow integration with the ATC system.
- D. Prior to commencement of schedule programming meet with Owner to discuss block/individual scheduling of system/equipment and alarm protocols. Review equipment designations and graphics screens to be provided. Take minutes of this meeting and issue them to the Construction Manager/Owner's representative.
- E. RS-232 Drivers or Hardware Translators: All DDC components shall communicate on existing Level 1 or Level 2 networks in native mode.
- F. The new installed system shall communicate to the existing graphic Workstation in the Buildings and Grounds office at the Middle School. All new graphics shall match established standards of the existing District system.
- G. All temperature control wiring regardless of voltage shall be done by this Contractor. This shall include power wiring of control panels/components from available spare circuits in electrical panels. The automatic temperature control manufacturer shall provide wiring diagrams, field supervision and one (1) year guarantee on the installed DDC system and three (3) year factory warrantee on all control equipment manufactured by the DDC manufacturer.
- H. Thermostats, temperature sensors, heating control devices, etc. are indicated on the Drawings in general. Provide any additional devices required to carry out project intent as herein described.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
AUTOMATIC TEMPERATURE CONTROLS

- I. Thermostats/Temperature sensors in areas subject to vandalism shall have in addition separately mounted extra heavy guards. Submit sample.
- J. Contractor shall include all new heating control devices, thermostats, etc. indicated on Drawings or that is part of a new system.
- K. Contractor shall furnish all necessary electrical controls, motor starters, switches, etc. for proper operation of equipment furnished by him under this Contract, and as herein noted.
- L. Point and component lists are to be used as a guide. If the sequence of operation requires additional points/control devices, this Contractor shall be responsible for providing same.
- M. All control system components installed shall be manufactured by the DDC system manufacturer.
- N. Communications cabling shall be run in hallways above hung ceiling with plenum cable and wiremold where exposed.
- O. Removals shall include switches, relays, electric components not required for the new intent. Do not leave behind items with no function. Provide appropriate blanking plates/patching where removals occur in finished spaces.
- P. Provide services and manpower necessary for commissioning of system in coordination with the HVAC Contractor, Balancing Contractor and Owner's representative.

1.2 SOFTWARE CODE

- A. Owner shall be furnished with a complete, hard-bound copy of all installed software code. Final payment shall be contingent upon this requirement being met.

PART 2 - PRODUCTS

2.1 CONTROL VALVES (With Electric Actuator)

- A. Provide automatic control valves suitable for the specified controlled media (water or glycol). Provide valves, which mate and match the material of the connected piping. Equip control valves with the actuators of required input power type and control signal type to accurately position the flow control element and provide sufficient force to achieve required leakage specification.
- B. Control valves shall meet the heating and cooling loads specified, and closes off against the differential pressure conditions within the application. Valves should be sized to operate accurately and with stability from 10% to 100% of the maximum design flow.
- C. Trim material shall be stainless steel for hot water and high differential pressure applications.
- D. Electric actuation should be provided on all terminal unit reheat applications.

2.2 CENTRAL CONTROL PANEL

- A. Integrate new controls into existing central control touch screen panel. This central panel will allow for time clock scheduling, setpoints, monitoring of points and alarm. All freezestats will be reset manually at the central panel. All alarms will be displayed and reset manually at central panel.
- B. All exhaust fans shall be controlled by the central control panel.
- C. Central control panel shall be connected to existing District IT Network. District shall provide data drop.

2.3 LOCAL STAND-ALONE CONTROLLERS

- A. Provide local stand-alone controllers as required. These controllers will, through DDC programs control local units. They shall be networked together to central touch screen panel.

2.4 ENCLOSURES

- A. All control components shall be mounted in NEMA-1, lockable, hinged enclosures.

PART 3 - EXECUTION

3.1 GENERAL

- A. All DDC Controllers shall be networked to Central Communications controller.
- B. Existing Front End Workstation in B & G office at the Middle School shall be configured for Elementary School Addition access. Text/Graphic screens for each system shall match existing.
- C. Communications cabling shall be run in hallways above hung ceiling with plenum cable and wiremold where exposed.

3.2 CONTRACTOR RESPONSIBILITIES

- A. General: The Contractor or a Sub-Contractor shall perform installation of the building automation system. However, all installation shall be under the personal supervision of the Contractor. The Contractor shall certify all work as proper and complete.
- B. Demolition: Remove controls, which do not remain as part of the building automation system, all associated abandoned wiring and conduit and all associated pneumatic tubing. The Owner will inform the Contractor of any equipment, which is to be removed, that will remain the property of the Owner. The Contractor will dispose of all other equipment that is removed.
- C. Access to Site: Unless notified otherwise, entrance to building is restricted. No one will be permitted to enter the building unless their names have been cleared with the Owner or the Owner's representative.
- D. Code Compliance: All wiring shall be installed in accordance with all applicable electrical codes and will comply with equipment manufacturer's recommendations. Should any discrepancy be found between wiring Specifications in Division 26 and Division 22, wiring requirements of Division 26 will prevail for work specified in Division 26.
- E. Cleanup: At the completion of the work, all equipment pertinent to this Contract shall be checked and thoroughly cleaned, and all other areas shall be cleaned around equipment provided under this Contract. Clean the exposed surfaces of tubing, hangers, and other exposed metal of grease, plaster, or other foreign materials.

3.3 WIRING, CONDUIT, TUBING AND CABLE

- A. All wire will be copper and meet the minimum wire size and insulation class listed below:

Wire Class	Wire Size	Isolation Class
Power	12 Gauge	600 Volt
Class One	14 Gauge Std.	600 Volt
Class Two	18 Gauge Std.	300 Volt
Class Three	18 Gauge Std.	300 volt
Communications	Per Mfr.	Per Mfr.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
AUTOMATIC TEMPERATURE CONTROLS

- B. Power and Class One wiring may be run in the same conduit. Class Two and Three wiring and communications wiring may be run in the same conduit.
- C. Where different wiring classes terminate within the same enclosure, maintain clearances and install barriers per the National Electric Code.
- D. Where wiring is required to be installed in conduit, EMT shall be used. Conduit shall be minimum 1/2 inch galvanized EMT. Setscrew fittings are acceptable for dry interior locations. Watertight compression fittings shall be used for exterior locations and interior locations subject to moisture. Provide conduit seal off fitting where exterior conduits enter the building or between areas of high temperature/moisture differential.
- E. Flexible metallic conduit (max. 3 feet) shall be used for connections to motors, actuators, controllers, and sensors mounted on vibration producing equipment. Liquid-tight flexible conduit shall be use in exterior locations and interior locations subject to moisture.
- F. Junction boxes shall be provided at all cable splices, equipment termination, and transitions from EMT to flexible conduit. Interior dry location J-boxes shall be galvanized pressed steel, nominal four-inch square with blank cover. Exterior and damp location JH-boxes shall be cast alloy FS boxes with threaded hubs and gasket covers.
- G. Where the space above the ceiling is a supply or return air plenum, the wiring shall be plenum rated. Teflon wiring can be run without conduit above suspended ceilings. EXCEPTION: Any wire run in suspended ceilings that is used to control outside air dampers or to connect the system to the fire management system shall be in conduit.
- H. Coaxial cable shall conform to RG62 or RG59 rating. Provide plenum rated coaxial cable when running in return air plenums.

3.4 HARDWARE INSTALLATION

- A. Installation Practices for Wiring and Tubing
 - 1. All controllers are to be mounted vertically and per the manufacturer's installation documentation.
 - 2. The 120 VAC power wiring to each Ethernet or Remote Site controller shall be a dedicated run, with a separate breaker. Each run will include a separate hot, neutral and ground wire. The ground wire will terminate at the breaker panel ground. This circuit will not feed any other circuit or device.
 - 3. A true earth ground must be available in the building. Do not use a corroded or galvanized pipe, or structural steel.
 - 4. Wires are to be attached to the building proper at regular intervals such that wiring does not drop. Wires are not to be affixed to or supported by pipes, conduit, etc.
 - 5. Wiring in finished areas will be concealed in ceiling cavity spaces, plenums, and furred spaces and wall construction. Exception; metallic surface raceway may be used in finished areas on masonry walls. All surface raceway in finished areas must be color matched to the existing finish within the limitations of standard manufactured colors.
 - 6. Wiring, in non-finished areas where possible, will be concealed in ceiling cavity spaces, plenums, furred spaces, and wall construction. Exposed conduit will run parallel to or at right angles to the building structure.
 - 7. Wires are to be kept a minimum of three (3) inches from hot water or condense piping.
 - 8. Where sensor wires leave the conduit system, they are to be protected by a plastic insert.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
AUTOMATIC TEMPERATURE CONTROLS

B. Installation Practices for Field Devices

1. Well-mounted sensors will include thermal conducting compound within the well to insure good heat transfer to the sensor.
2. Actuators will be firmly mounted to give positive movement and linkage will be adjusted to give smooth continuous movement throughout 100 percent of the stroke.
3. Relay outputs will include transient suppression across all coils. Suppression devices shall limit transients to 150% of the rated coil voltage.
4. Water line mounted sensors shall be removable without shutting down the system in which they are installed.
5. For duct static pressure sensors, the high-pressure port shall be connected to a metal static pressure probe inserted into the duct pointing upstream. The low-pressure port shall be left open to the plenum area at the point that the high-pressure port is tapped into the ductwork.
6. For building static pressure sensors, the high-pressure port shall be inserted into the space via a metal tube. Pipe the low-pressure port to the outside of the building.

C. Enclosures

1. For all I/O requiring field interface devices, these devices, where practical, will be mounted in a field interface panel (FIP). The Contractor shall provide an enclosure, which protects the device(s) from dust, moisture, conceals integral wiring and moving parts.
2. FIP's shall contain power supplies for sensors, interface relays and Contractors, safety circuits, and I/P transducers.
3. The FIP enclosure shall be of steel construction with baked enamel finish; NEMA 1 rated with a hinged door and keyed lock. The enclosure will be sized for 20% spare mounting space. All locks will be keyed identically.
4. All wiring to and from the FIP will be to screw type terminals. Analog or communications wiring may use the FIP as a raceway without terminating. The use of wire nuts within the FIP is prohibited.
5. All outside mounted enclosures shall meet the NEMA-4 rating.
6. The wiring within all enclosures shall be run in plastic track. Wiring within controllers shall be wrapped and secured.

D. Identification

1. Identify all control wires with labeling tape or sleeves using either words, letters, or numbers that can be exactly cross-referenced with As-Built Drawings.
2. All field enclosures, other than controllers, shall be identified with a Bakelite nameplate. The lettering shall be in white against a black or blue background.
3. Junction box covers will be marked to indicate that they are a part of the BAS system.
4. All I/O field devices (except space sensors) that are not mounted within FIP's shall be identified with nameplates.
5. All I/O field devices inside FIP's shall be labeled.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
AUTOMATIC TEMPERATURE CONTROLS

E. Control System Switch-Over

1. Demolition of the existing control system will occur after the new temperature control system is in place including new sensors and new field interface devices.
2. Switch over from the existing control system to the new system will be fully coordinated with the Owner. A representative of the Owner will be on site during switch over.
3. The Contractor shall minimize control system downtime during switch over. Sufficient installation mechanics will be on site so that the entire switch over can be accomplished in a reasonable time frame.

F. Location

1. The location of sensors is per Mechanical and Architectural Drawings.
2. Outdoor air sensors will be mounted on the north building face directly in the outside air. Install these sensors such that the effects of heat radiated from the building or sunlight is minimized.
3. Field enclosures shall be located immediately adjacent to the controller panel(s) to which it is being interfaced.

3.5 SOFTWARE INSTALLATION

- A. General: The Contractor shall provide all labor necessary to install, initialize, start-up and debug all system software as described in this section. This includes any operating system software or other third party software necessary for successful operation of the system.
- B. Database Configuration: The Contractor will provide all labor to configure those portions of the database that are required by the points list and sequence of operation.
- C. Color Graphic Slides: Unless otherwise directed by the Owner, the Contractor will provide color graphic displays as depicted in the Mechanical Drawings for each system and floor plan. For each system or floor plan, the display shall contain the associated points identified in the point list and allow for set point changes as required by the Owner.
- D. Reports - The Contractor will configure a minimum of 6 reports for the Owner as listed below:
1. Central Plant Status Report
 2. Air Handler Status Report
 3. Energy Consumption Report
 4. Space Temperature Report
 5. Specialty Equipment Status Report
- E. Documentation - As-built software documentation will include the following:
1. Descriptive point lists
 2. Application program listing
 3. Application programs with comments
 4. Printouts of all reports
 5. Alarm list
 6. Printouts of all graphics

3.6 COMMISSIONING AND SYSTEM STARTUP

- A. Point-to-Point Checkout:
Each I/O device (both field mounted as well as those located in FIP's) shall be inspected and verified for proper installation and functionality. A checkout sheet itemizing each device shall be filled out, dated and approved by the Project Manager for submission to the Owner or Owner's representative.
- B. Controller and Workstation Checkout:
A field checkout of all controllers and front-end equipment (computers, printers, modems, etc.) shall be conducted to verify proper operation of both hardware and software. A checkout sheet itemizing each device and a description of the associated tests shall be prepared and submitted to the Owner or Owner's representative by the completion of the project.
- C. System Acceptance Testing
 - 1. All application software will be verified and compared against the sequences of operation. Control loops will be exercised by inducing a setpoint shift of at least 10% and observing whether the system successfully returns the process variable to setpoint. Record all test results and attach to the Test Results Sheet.
 - 2. Test each alarm in the system and validate that the system generates the appropriate alarm message, that the message appears at all prescribed destinations (workstations or printers), and that any other related actions occur as defined (i.e. graphic panels are invoked, reports are generated, etc.). Submit a Test Results Sheet to the Owner.
 - 3. Perform an operational test of each unique graphic display and report to verify that the item exists, that the appearance and content are correct, and that any special features work as intended. Submit a Test Results Sheet to the Owner.
 - 4. Perform an operational test of each third party interface that has been included as part of the automation system. Verify that all points are properly polled, that alarms have been configured, and that any associated graphics and reports have been completed. If the interface involves a file transfer over Ethernet, test any logic that controls the transmission of the file, and verify the content of the specified information.

3.7 SEQUENCES OF OPERATION

- A. Boilers with Associated Pumps and Appurtenances
 - 1. Integrate factory control system into ATC system. See Boiler Spec. Section 23 0120.
- B. Hot Water Unit Heater
 - 1. Point List
 - a. Space Temperature
 - b. Space Temperature set-point
 - c. Fan Start/Stop
 - 2. Sequence of Operation
 - a. Unit fan shall cycle based on space temperature set-point.

C. Hot Water Circulator Pumps (HWP-1 & HWP-2)

1. Point List
 - a. Pump Start/Stop
 - b. Pump Status
 - c. VFD Status
 - d. System Differential Pressure
2. Sequence of Operation
 - a. Occupied Mode: Pump HWP-1 or HWP-2 shall start when the outdoor air temperature drops below 60 ° F. (adjustable).
 - b. Unoccupied Mode: Pump HWP-1 or HWP-2 shall start when the outdoor air temperature drops below 40 ° F. (adjustable).
 - c. Lead / Lag: When the system calls for heat, the lead pump shall start, if the pump current sensor does not sense proper current within 4 minutes, the lead pump shall shutdown and the lag pump shall become lead and an alarm shall be generated at the OWS. Pumps shall alternate once each seven days to provide equal run time.
 - d. Pump speed shall modulate through the respective VFD as required to satisfy the system differential pressure control sensor.

D. Hot Water Heating Pumps

1. Point List
 - a. Pump Start/Stop
 - b. Pump Status
 - c. VFD Status
 - d. Pressure Differential Control Sensor
2. Sequence of Operation
 - a. Occupied Mode: Pump shall start when the outdoor air temperature drops below 60 ° F. (adjustable).
 - b. Unoccupied Mode: Pump shall start when the outdoor air temperature drops below 40 ° F. (adjustable).
 - c. Lead / Lag: When the system calls for heat, the lead pump shall start, if the pump current sensor, does not sense proper current within 4 minutes, the lead pump shall shutdown and the lag pump shall become lead and an alarm shall be generated.
 - d. Pump speed shall modulate through the respective VFD as required to satisfy the system differential pressure control sensor.

3.8 TRAINING

- A. The Contractor shall supply personnel to train key customer personnel in the operation and maintenance of the installed system. The training program shall be designed to provide a comprehensive understanding and basic level of competence with the system. It shall be sufficiently detailed to allow customer personnel to operate the system independent of any outside assistance. On-line context sensitive HELP screens shall be incorporated into the system to further facilitate training and operation.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
AUTOMATIC TEMPERATURE CONTROLS

- B. The training plan shall include detailed session outlines and related reference materials. The customer personnel shall be able to utilize these materials in the subsequent training of their co-workers.
1. Training time shall not be less than a total of 40 hours, and shall consist of:
 - a. 16 hours during normal day shift periods for system operators. Specific schedules shall be established at the convenience of the customer.
 - b. 24 hours of system training shall be provided to customer supervisory personnel so that they are familiar with system operation.
 - c. The specified training schedule shall be coordinated with the customer and will follow the training outline submitted by the Contractor as part of the submittal process.
 - d. Provide an as built Video training tape, showing & explaining all animated graphics in detail, all controllers and equipment the FMS operates. (Four (4) Copies shall be supplied).
 - e. If further training is needed, the Contractor shall provide another 40 hours at no extra cost.
 2. All training sessions shall be scheduled by the Construction Manager. The Contractor shall provide sign-in sheets and distribute minutes of each session prior to the subsequent session. This documentation shall be included in the Operation and Maintenance manuals.

END OF SECTION

SECTION 23 0470

TESTING, START-UP AND ADJUSTMENTS

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 TESTING, START-UP AND ADJUSTMENTS

- A. Furnish all materials, supplies, labor and power required for testing. Make preliminary tests and prove work satisfactory. Notify Architect and all authorities having jurisdiction in ample time to be present for final testing of all piping. Test before insulating or concealing any piping. Repair defects disclosed by tests, or if required by Architect, replace defective work with new work without additional cost to Owner. Make tests in stages if so ordered by Architect to facilitate work of others. Use of wicking in tightening leaking joints not permitted.
- B. HVAC Contractor is responsible for work of other trades disturbed or damaged by tests and/or repair and replacement of his work, and shall cause work so disturbed or damaged to be restored to its original condition at his own expense.
- C. Unless otherwise specified, all piping systems shall be hydrostatically tested to 150 p.s.i.g. Tests shall be of four (4) hour duration during which time piping shall show no leaks and during time no sealing of leaks will be permitted.
- D. HVAC Contractor shall balance out system and submit test reports showing operating data to include the following:
 - 1. C.F.M. of all air handling equipment.
 - 2. C.F.M. at each air outlet.
 - 3. G.P.M. for equipment.
 - 4. R.P.M. for each fan and fan motor.
 - 5. Motor power consumption.
 - 6. Air temperature readings before and after coils.
 - 7. Water temperature readings in and out of coils and through equipment.
 - 8. Pressure gauge readings before and out of all pertinent equipment.
- E. If the performance of the systems does not conform to the design parameters the Contractor shall return to the site until the systems perform as designed.
- F. HVAC Contractor shall furnish services of qualified personnel, thoroughly familiar with job, to operate and make all adjustments so that system and control equipment shall operate as intended. This shall include adjustment/replacement of sheaves/impellers to achieve design performance. Adjustments shall be made including balancing of water and air systems in cooperation with qualified representatives of mechanical equipment manufacturers and temperature control manufacturer. This shall include any required adjustment/replacement of sheaves, belts, impellers, etc. to achieve design performance. Architect/Engineer is to be notified when this balancing is to be performed.
- G. When all work is in an acceptable operating condition, furnish operating and maintenance manuals as specified in General Requirements.
- H. All HVAC equipment shall be carefully designed, constructed and installed so as to prevent any objectionable noise or vibration reaching any part of the building outside of the mechanical equipment room. Care shall also be taken to prevent transmission of noise or odor through ductwork into other spaces.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
TESTING, START-UP AND ADJUSTMENTS

- I. Contractor shall include in his Bid, adjustment of air quantity below scheduled C.F.M. for air systems deemed “noisy” by Owner subsequent to initial balancing.
- J. The Contractor shall be required to rectify or replace at his own expense, any equipment not complying with the foregoing requirements.
- K. Final inspection and approval shall be made only after proper completion of all of above requirements.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
GENERAL LABELING, VALVE CHARTS AND PIPING IDENTIFICATION

SECTION 23 0480

GENERAL LABELING, VALVE CHARTS AND PIPING IDENTIFICATION

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 GENERAL LABELING AND VALVE CHARTS

- A. This Contractor shall have appropriate descriptive labels, identification tags and nameplates of equipment, valves, etc. furnished and installed under this Contract and shall be properly placed and permanently secured to (or adjacent to) the item being installed. All such labels, identifications, tags, nameplates, etc. shall be selected by the Architect/Engineer.
- B. In general, labels shall be the lamacoid type of sufficient size to permit easy identification, black coated, white edged, with letters 3/16" high. Major equipment, apparatus, control panels, etc. shall have 8" x 4" lamacoid plates with lettering of appropriate size.
- C. Provide tags for all valves, automatic and manual dampers. Tags shall be Type #2020 anodized aluminum of #1420 lamacoid engraved. Tags may not necessarily be standard. Fasten tags to valve or damper with brass chain.
- D. All nameplates, labels, identifications and tags shall be as manufactured by the Seton Name Plate Co., of New Haven, CT or approved equal. Submit complete schedules, listings and descriptive data together with samples for checking and approval before purchasing. Labeling shall include the "number" of the equipment, valve, dampers, switch, etc. and service of the valve.
- E. Mount on laminated plastic boards with transparent surface all valves, wiring diagrams, control diagrams, instruction charts, permits, etc. Valve chart shall be non-fading with original copies laminated.

1.2 IDENTIFICATION OF PIPING

- A. This Contractor shall provide on all piping, semi-rigid, wrap around plastic identification markers equal to Seton Snap-Around and/or Seton Strap-On pipe markers.
- B. Each marker background is to be appropriately color coded with a clearly printed legend to identify the contents of the pipe. Directions of flow arrows are to be included on each marker.
- C. Identification of all piping shall be adjacent to each valve, at each pipe passage through wall, floor and ceiling construction and at each branch and riser take-off.
- D. Identification shall be on all horizontal pipe runs, marked every 15 ft. as well as at each inlet outlet of equipment.

END OF SECTION

SECTION 23 0490

GUARANTEE

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 GUARANTEE

- A. The Contractor shall remove, replace and/or repair at his own expense and at the convenience of the Owner, any defects in workmanship, materials, ratings, capacities and/or characteristics occurring in the work within one (1) year or within such longer period as may be provided in the Drawings and/or Section of the Specifications, which guarantee period shall commence with the final acceptance of the entire Contract in accordance with the guarantee provisions stated in the General Conditions, and the Contractor shall pay for all damage to the system resulting from defects in the work and all expenses necessary to remove, replace, and/or repair any other work which may be damaged in removing, replacing and/or repairing the work.

END OF SECTION

SECTION 26 0100

GENERAL CONDITIONS

PART 1 - GENERAL

Applicable provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section.

1.1 DESCRIPTION OF WORK

- A. It is the intention of the Specification and Drawings to call for finish work, tested and ready for operation.
- B. Any apparatus, appliance material or work not shown on the Drawings but mentioned in the Specifications, or vice versa, or any incidental accessories or ancillary devices necessary to make ready for operation even if not particularly specified, shall be furnished, delivered and installed under their respective Division without additional expense to the Owner.
- C. Minor details not usually shown or specified, but necessary for proper installation and operation, shall be included in the work as though they were hereinafter specified or shown.
- D. Work under each section shall include giving written notice to the Architect of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules and regulations of authorities having jurisdiction; and any necessary items of work omitted. In the absence of such written notice, it is mutually agreed that work under each section has included the cost of all necessary items for the approved satisfactory functioning of the entire system without extra compensation.
- E. Small scale drilling through walls and floors which may contain asbestos shall be performed by a person with a "restricted asbestos handler allied trades certificate" and shall have a copy of it in his possession at all times while working of the project.

1.2 DRAWINGS

- A. Drawings are diagrammatic and indicate the general arrangement of the system and work included in the Contract. (Do not scale the drawings). Consult the Architectural Drawings and details for exact location of fixtures and equipment; where same are not definitely located, obtain this information from the general construction supervisor.
- B. Work under each section shall closely follow Drawings in layout of work; check Drawings of other Divisions to verify spaces in which work will be installed. Maintain maximum headroom; do not begin work until unsatisfactory conditions are corrected.
- C. Make reasonable modifications in the layout as needed to prevent conflict with work of other Sections of the Specifications or for proper execution of the work.
- D. It shall be understood that the right is reserved by the Architect/Engineer to change the location of equipment and apparatus to a reasonable extent as building conditions may dictate, prior to their installation without extra cost to the Owner.

1.3 SURVEYS AND MEASUREMENTS

- A. Base all measurements, both horizontal and vertical, from established benchmarks. All work shall agree with these established lines and levels. Verify all measurements at site and check the correctness of same as related to the work.

- B. Before proceeding with the work resolve discrepancies between actual measurements and those indicated, which prevent following good practice or intent of the Drawings or Specifications.

1.4 CODES AND STANDARDS

- A. The Codes and Standards listed below apply to all Electrical work codes or standards that are mentioned in these Specifications; the latest edition or revision shall be followed:
 - 1. NEMA - Standards
 - 2. ANSI CI - National Electrical Code (NFPA 70)
 - 3. ANSI C50.13 - Rotating Electrical Machinery
 - 4. NEMA MG2 - Construction and guide for selection, installation and use of electric motors.
 - 5. NEMA MG1 - Motors and Generators
- B. The following State and Local Codes shall apply: New York State Uniform Fire Prevention and Building Code, and Local Building Codes.
- C. The following abbreviations are used within this Division of the Specifications:
 - 1. IES - Illuminating Engineering Society.
 - 2. NEC - National Electrical Code
 - 3. ANSI - American National Standards Institute
 - 4. ASTM - American Society for testing and materials
 - 5. EPA - Environmental Protection Agency
 - 6. IEEE - Institute of Electrical and Electronic Engineers
 - 7. NEMA - National Electrical Manufacturers Association
 - 8. NFPA - National Fire Protection Association.
 - 9. OSHA - Occupational Safety and Health Administration
 - 10. UL - Underwriter's Laboratories

1.5 PERMITS AND FEES

- A. Give all necessary notices, obtain all permits and pay all Government and State sales taxes and fees where applicable, and other costs, including utility connections or extensions in connection with work of this Division. File all necessary plans, prepare all documents and obtain all necessary approvals of all Governmental and State departments having jurisdiction; obtain all necessary certificates of inspections for his work and deliver a copy to the Architect before request for acceptance and final payment for the work. Pay fees for utility construction/connections.
- B. Include in the work, without extra cost to the Owner, any labor, materials, services, and apparatus, Drawings in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on the Drawings and/or specified.
- C. All materials furnished and all work installed shall comply with the rules and recommendations of the National Fire Protection Association, with the requirements of the local utility companies, with the recommendations of fire insurance rating organization having jurisdiction and with the requirements of all governmental departments having jurisdiction.
- D. All materials and equipment for the electrical portion of the mechanical systems shall bear the approval label of or shall be listed by the Underwriter's Laboratories, Inc.

1.6 TEMPORARY LIGHT AND POWER

- A. The Contractor shall furnish, install, maintain and, upon direction to do so, remove system of temporary lighting and power for the use of all construction trades.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
GENERAL CONDITIONS

- B. The Electrical Contractor shall provide adequate electrical service for the needs of all Contracting Trades.
- C. Wiring shall be provided for temporary use during building construction, including grounding and fused main cut-off switches. Temporary electric lines with branch switches shall be provided for lighting and for taps for electric tools, pumps and other temporary equipment; all connected to a main line looped through floor spaces and up stair wells or shafts. All power outlets shall be grounded to an equipment ground wire in an approved manner. Electric lines shall be extended to power tools, which cannot be located within reach of extension cords.
- D. Light bulbs shall be provided in sufficient quantity to light the building for safety purposes. Extension cords shall be provided as may be essential to the proper execution of the work. Temporary lighting shall be provided for all stairs and other locations where needed for safety or the proper execution of the work.
- E. The Electrical Contractor shall maintain temporary lighting and power systems in good working condition, including the relocation and reinstallation when required to avoid interference with the progress of construction.
- F. Provide ground-fault personnel ampere protection for all single phase, 15 and 20 ampere receptacles. All receptacles and portable cord connectors shall have NEMA standard locking type configurations.
- G. The Electrical Contractor shall turn lights on and off at the beginning and end of each working day of any trade unless otherwise directed. He shall arrange for all temporary light and power for all trades which do not have holidays (days off) similar to the electrical trade. The Electrical Contractor shall patch and repair all openings left damaged by the installation and removal of the temporary light and power.

1.7 MANUFACTURER'S IDENTIFICATION

- A. Manufacturer's nameplate, name or trademark and address shall be attached permanently to all equipment and materials furnished under this Division. The nameplate of a contractor or distributor may not be used.

1.8 SHOP DRAWINGS

- A. Submit for approval detailed shop drawings of all equipment and materials in accordance with working procedures.
- B. Furnish all necessary templates and patterns for installation work and for the purpose of making adjoining work conform; furnish setting plans and shop details to other trades as necessary.
- C. Submit shop drawings for the following:
 - 1. Receptacles, switches, occupancy sensors.
 - 2. Overcurrent protective devices.
 - 3. Panelboards.
 - 4. Fire alarm system.

1.9 MATERIALS AND WORKMANSHIP

- A. All materials and apparatus necessary for the work, except as specifically indicated otherwise, shall be new, of first class quality and shall be furnished, delivered, erected, connected and finished in every detail and shall be so selected and arranged as to fit properly into the building spaces. Where no specific kind or quality of material is given, a first class standard article as accepted by the Architect shall be furnished.
- B. Furnish the services of an experienced Superintendent who shall be constantly in charge of the installation of the work, together with all skilled workmen, helpers, and labor to unload, transfer, erect, connect up, adjust, start, operate and test each system.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
GENERAL CONDITIONS

- C. Unless otherwise specifically indicated on the Drawings or Specifications, all equipment and materials shall be installed in accordance with the recommendations of the manufacturer. This includes the performance of such tests as the manufacturer recommends.

1.10 PROTECTION

- A. Work under each Section shall include protecting the work and materials of all other Sections from damage from work or workmen and shall include making good all damage thus caused. Be responsible for work and equipment until finally inspected, tested, and accepted; protect work against theft, injury or damage; and carefully store material and equipment received on site, which is not immediately installed. Close open ends of work with temporary covers or plugs during construction to prevent entry of obstructing or other foreign material.
- B. Work under each section includes receiving, unloading, uncrating, storing, protecting, setting in place and connecting up completely of any equipment supplied under each section. Work under each section shall also include exercising special care in handling and protecting equipment and fixtures, and shall include the cost of replacing any of the above equipment and fixtures which are missing or damaged by reason of mishandling or failure to protect on the part of the Contractor.

1.11 BASES AND SUPPORTS

- A. Unless specifically noted otherwise, provide all necessary supports, pads, bases, and piers required for all equipment under this Division. Provide all temporary bases and supports as required.
- B. All equipment, unless shown otherwise, shall be securely attached to the building structure. Attachments shall be of a strong and durable nature; any attachments that are, insufficient, shall be replaced as directed by the Architect.

1.12 SLEEVES, INSERTS AND ANCHOR BOLTS

- A. All conduits passing through floors, walls or partitions shall be provided with sleeves having an internal diameter one inch larger than the outside diameter of the conduit, or insulation enclosing the conduit.
- B. Furnish all sleeves, inserts, and anchor bolts necessary to be installed under other sections of the Specifications to accommodate work of this section.
- C. Sleeves through outside walls shall be cast iron sleeves with intermediate integral flange. Sleeves shall be set with ends flush with each face of wall. The remaining space shall be packed with oakum to within 2 inches of each face of the wall. The remaining shall be packed and made watertight with a waterproof compound.
- D. Sleeves through concrete floors or interior masonry walls shall be schedule 40 black steel pipe, set flush with finished walls or ceiling surfaces but extending 2 inches above finished floors.
- E. Sleeves through interior partitions shall be 22 gauge galvanized sheet steel, set flush with finished surfaces or partitions.
- F. Inserts shall be individual or strip type of pressed steel construction with accommodation for removable nuts and threaded rods up to 3/4" inch diameter, permitting lateral adjustment. Individual inserts shall have an opening at the top to allow reinforcing rods up to 1/2" diameter to be passed through the insert body. Strip inserts shall have attached rods having hooked ends to allow fastening to reinforcing rods. Inserts shall be as manufactured by Carpenter and Patterson, Inc. or Grinnell Co., Inc.
- G. Penetrations through fire-rated walls, ceilings and floors in which cables, conduits pass, shall be sealed by a UL approved fire stop fitting classified for an hourly rating equal to the fire rating of the floor, wall or ceiling shall be Gedney Fire Seal Type CFSF of CAPS.

1.13 PAINTING

- A. All finish painting in finished areas shall be performed by others.
- B. All materials shipped to the job site under the Division, such as panels and plates, shall have a prime coat and standard manufacturer's finish unless otherwise specified.
- C. Inaccessible conduits, hangers, supports and anchors and ducts shall be coated prior to installing.
- D. All components of the fire alarm system raceway shall be painted red. This includes but is not limited to conduit, junction boxes, pull boxes.

1.14 CUTTING AND PATCHING

- A. All cutting and patching required for the work of this Division shall be done by this Division.
- B. Work under this Division shall include furnishing, locating and setting inserts and/or sleeves. Do all drilling and cutting necessary for the installation.
- C. All holes cut through concrete slabs and structural steel shall be punched or drilled from the underside. No structural member shall be cut without the written acceptance of the Architect and all such cutting shall be done in a manner directed by him.
- D. Refer to Division 1 for additional requirements.

1.15 SCAFFOLDING, RIGGING, HOISTING

- A. Furnish all scaffolding, rigging, hoisting, and services necessary for erection and delivery into the premises of any equipment and apparatus furnished under this Division. Remove same from premises when no longer needed.

1.16 EXCAVATING AND BACKFILLING

- A. All excavation and backfilling for the work of this Division shall be performed by Division 2.

1.17 WATERPROOFING

- A. Where any work penetrates waterproofing, including waterproof concrete and floors in wet areas. Submit proposed method of installation for review by the Architect before beginning work. Furnish all necessary sleeves, caulking and flashing necessary to make opening absolutely watertight.

1.18 ACCESSIBILITY AND ACCESS PANELS

- A. Be responsible for the sufficiency of the size of shafts and chases, the adequate thickness of partitions, and the adequate clearance in double partitions and hung ceilings for the proper installation of the work of this Division.
- B. Locate all equipment, which must be serviced, operated or maintained in fully accessible positions. Minor deviations from Drawings may be allowed for better accessibility with approval of the Architect.

1.19 CLEANING

- A. Thoroughly clean all equipment of all foreign substances inside and out before being placed in operation.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
GENERAL CONDITIONS

- B. If any foreign matter should stop any part of a system after being placed in operation, the system shall be disconnected, cleaned and reconnected whenever necessary to locate and remove obstructions. Any work damaged in the course of removing obstructions shall be repaired or replaced when the system is reconnected at no additional cost to the Owner.
- C. Upon completion of work remove from the premises all rubbish, debris, and excess materials. Any oil or grease stains on floor areas caused by work of this Division shall be removed and floor areas left clean.

1.20 RECORD DRAWINGS

- A. Maintain at the job site a record set of Electrical Drawings on which any changes in location of equipment, panels, devices, and major conduits shall be recorded. Indicate dimensions of all items installed underground or in concrete.

1.21 OPERATING INSTRUCTIONS

- A. Upon completion of all work and all tests, the Contractor shall furnish the necessary skilled labor and helpers for operating his system and equipment for a period specified under each applicable Section of this Division. During this period, he shall instruct the Owner or his representative fully in the operation, adjustment and maintenance of all equipment furnished. Give at least 7 days notice to the Owner in advance of this period.
- B. Furnish four complete bound sets for delivery to the Architect of typewritten or blueprinted instructions for operating and maintaining all systems and equipment included in this Division. All instruction shall be submitted in draft for review prior to final issue. Manufacturer's advertising literature or catalogs may not be used for operating and maintenance instruction.
- C. In the above-mentioned instructions, include the maintenance schedule for the principal items of equipment furnished under this Division.
- D. The manufacturer shall attest in writing that his equipment has been properly installed prior to start. The following is some of the equipment necessary for this inspection: fire alarm system. These letters will be bound into the operating and maintenance books.

1.22 ADJUSTING AND TESTING

- A. After all equipment and accessories to be furnished are in place, they shall be put in final adjustment and subjected to such operating tests as will assure the Architect that they are in proper adjustment and in satisfactory permanent operating condition.
- B. This particular work shall include the services of a factory engineer to inspect the installation and assist in the initial startup and adjustment to the equipment. The period of these services shall be for such time as necessary to secure proper installation and adjustments. After the equipment is placed in permanent operation, there shall be furnished the service of said engineer for the purpose of supervising the initial operation of the equipment and to instruct the personnel responsible for operation and maintenance of the equipment.
- C. At the completion of the job when all panels, devices, etc. are at full working load the Contractor shall provide infrared scan thermographic inspection test of all connection points, terminals, etc. of wires #8 AWG and larger to detect "hot-spots" in the electrical current flow. Correct all hot-spots.

1.23 UNDERWRITER'S LABEL

- A. All electrical equipment and materials shall be new and shall comply with the standards of and shall bear the label of the Underwriter's Laboratories.

1.24 ELECTRICAL SAFETY INSPECTION

- A. Electrical Contractor shall arrange for an Electrical Safety Inspection to be performed by the Local Inspection Agency (i.e.: New York Electrical Inspection Services, Atlantic Inland, Middle Department Inspection Agency). A Certificate of Compliance "Underwriter's Certificate" shall be issued to the Owner. All costs and coordination required shall be included in this Contractors Base Bid.

1.25 REMOVALS

- A. The scope of removals shown on the Drawings are diagrammatic only and indicate the intent of the work to be performed and not the complete scope of demolition and/or removal work. It shall be the responsibility of this Contractor to remove any electrical devices even if not specifically indicated to be removed on these Drawings in order to accommodate new work.
- B. All power conductors, control wiring and conduit associated with mechanical equipment such as fans, pumps, etc. designated for removal on the HVAC Drawings shall be removed clear back to the source of power and disconnected. All motor starters, disconnect switches, control devices, etc. shall be removed. Refer to HVAC Drawings for extent of HVAC removals.
- C. Any device removed shall include (but shall not be limited to) the removal of all associated wiring, conduit, boxes, and auxiliary devices back to the previous device on the circuit, or back to the panelboard or origin of the circuit or any other items that are not incorporated in new layout, until such removal is complete. If the removal of any device interrupts service of any other device that is to remain, the Contractor shall provide all materials and labor to ensure continuity of service to those devices to remain.
- D. Junction boxes, pullboxes, wireways, conduits, or any other devices required to reconnect circuitry shall be installed concealed within the ceilings, partitions and/or walls, floors, no surface or exposed circuiting shall be permitted, unless specifically indicated.
- E. The Electrical Contractor shall patch all openings in walls, ceilings or roof that are left open as a result of removals. Refer to cutting and patching section. Any electrical device removed including but not limited to disconnect switches, panelboards, etc. shall be cleaned, protected and turned over to the Owner or disposed of as directed by Owner.

END OF SECTION

SECTION 26 0125

SCOPE OF WORK

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 SCOPE OF WORK

- A. The work under this section includes all labor, materials, equipment, tools, transportation and the performance of all work necessary and required for furnishing and installing all Electrical work shown on the Contract Documents, as specified herein and as otherwise required by job conditions or reasonably implied, including, but not necessarily limited to the following:
1. The addition of new fire alarm devices (i.e., automatic fan shutdown, for new HVAC equipment) and the replacement of the existing ones as shown on Drawings.
 2. The contractor shall dispose of all debris, including but not limited to fixtures, equipment, lamps, ballast, wiring devices and the like in accordance with, as defined by governing law and regulations of the jurisdiction where the work is being performed.
 3. Provisions for temporary fire prevention actions to be taken during the period of construction until the new fire alarm system is operational.
 4. Modifications to existing electrical distribution system as indicated on the Drawings.
 5. Circuit breaker panelboards, feeder, conduit, cables and branch circuit wiring with all connections complete.
 6. Conduit, conduit fittings, junction and pull boxes and all appurtenances necessary for the raceway systems including necessary supports and fasteners.
 7. Electrical conductors, connectors, fittings and connection lugs.
 8. Branch circuit devices, outlet boxes, pull boxes, motor disconnect switches, etc.
 9. Power wiring to HVAC and Plumbing equipment including disconnect switches as shown and/or required by NEC.
 10. Temporary electric power while existing electrical service is being removed until the new electrical service is being installed.
 11. Core drilled holes for conduit passing through walls, ceilings and floors.
 12. All necessary cutting, patching and core drilling incidental to the electrical work.
 13. Temporary light and power.
 14. Licenses, permits, inspection and approvals.
 15. Grounding as required as per NEC.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SCOPE OF WORK

16. Sleeves for conduit and watertight caulking between conduit and sleeve.
 17. Testing.
 18. Cutting, patching and drilling.
 19. Excavation and backfill by others. Sand bedding by Electrical Contractor.
- B. Coordination Drawings (if applicable): Attention is directed to Division 1 for coordination drawing requirements for this project. These drawings are critical to the proper execution of the work and failure to honor these requirements may become the basis for denial of any and all claims for either or both “time” and “money”.

1.2 WORK NOT INCLUDED

- A. The following related items will be done by others:
1. Furnishing motors and controllers.
 2. Concrete work.
 3. Excavation and backfill.

END OF SECTION

SECTION 26 0150

APPROVED MANUFACTURERS

PART 1 - GENERAL

Applicable provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 APPROVED MANUFACTURERS

- A. The following list of manufacturers constitutes an approved list:
- | | | |
|----|--------------------------|--|
| 1. | Panelboards | Siemens, Square D, GE |
| 2. | Disconnect Switches | Siemens, Square D, GE |
| 3. | Conduit (steel) | Walker, Youngstown, Steelduct, Triangle |
| 4. | Conduit Fittings (steel) | Appleton, Crouse-Hind, O-Z, T & B, M & W |
| 5. | Wire and Cable | General, South Wire, Triangle, Rome, Hatfield, Crescent, Cerro |
| 6. | Splicing Connectors | 3M, O-Z, Thomas & Betts |
| 7. | Outlet Boxes | Appleton, National, Steel City, Raco |
| 8. | Wiring Devices | Arrow-Hart, Hubbell, P & S |
| 9. | Fire Alarm System | Edwards System Technologies or approved equal |
- B. All materials and appliances shall have listing of Underwriters Laboratories, Inc. and be so labeled, or shall conform to their requirements, in which case certified statements to that effect shall be furnished by the manufacturer with a copy of an examination report by a recognized independent testing laboratory acceptable to the Architect and his Engineer. Use new materials and appliances throughout.
- C. Where several types or makes of materials are specified, the Contractor has the option of using any of these, but after a type or make has been selected and has received the approval of the Architect, it shall be used throughout.
- D. The Contractor shall provide all structural supports for the proper attachment of equipment supplied by him and also for all equipment supplied to him under other sections of the Specifications for mounting and connections.
- E. Secure all equipment to the building structure independently. Do not secure to work of other trades such as ceiling lath, piping racks, etc., unless specified or noted otherwise.
- F. Wall mounted equipment shall be directly secured to wall by means of steel bolts. Maintain at least 1/4" air space between equipment and supporting wall. Pre-fabricated steel channels providing a high degree of mounting flexibility, such as those manufactured by Kindorf and Unistrut, shall be used for mounting arrays of equipment.
- G. All fastening, supports, hangers, anchors, etc., shall be of a type made for the specific purpose. On masonry walls, metallic expansion shield and machine screws shall be used. Screws with wooden plugs or anchors will not be acceptable on any part of the work.

END OF SECTION

SECTION 26 0200

CONDUIT

PART 1 - GENERAL

Applicable provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all material, labor, tools and services necessary to install rigid metal conduit, electrical metallic tubing and liquid tight flexible metal conduit, including all fittings to complete all work shown on the Drawings or specified herein.

1.2 RELATED WORK

- A. Cutting and patching.
- B. Trenching: Excavation and backfill for conduit and utility on site.
- C. Sheet metal flashing and trim.

PART 2 - PRODUCTS

2.1 RIGID STEEL CONDUIT

- A. Industry standard heavy wall conduit.
- B. Minimum 3/4" trade size.
- C. Threaded.
- D. Hot dipped galvanized finish by means of plating after cutting of threads.

2.2 INTERMEDIATE METAL CONDUIT

- A. Industry standard steel conduit.
- B. Minimum 3/4" trade size.
- C. Threaded.
- D. Hot dipped galvanized finish by means of plating after cutting of threads.

2.3 ELECTRICAL METALLIC TUBING

- A. Industry standard thin wall conduit of galvanized steel only.
- B. Minimum 3/4" trade size.
- C. Maximum 4" trade size.

2.4 FLEXIBLE METAL CONDUIT

- A. Galvanized steel tape formed into an industry standard interlocking coil.
- B. Minimum 3/4" trade size except for connection of lighting fixtures.
- C. Grounding type.
- D. Separate ground conductor.
- E. Use for short connections to motor terminal box, other vibrating equipment using a minimum length of 18" with 50% slack and a maximum of 6'.
- F. From outlet box to recessed lighting fixtures with a maximum length of 6'.

2.5 WIREWAYS

- A. Lay-in type, UL listed as wireway or auxiliary gutter.
- B. Wireway shall be of code gauge steel construction (UL standard for Wireway Auxiliary Gutters and Associated Fittings) with removable cover. Tamperproof screws shall be provided for sealing covers to prevent access by unauthorized personnel. Wireway shall be provided with knockouts.
- C. Connector and covers shall be attached so that removal of connectors is not necessary to utilize the lay-in feature.
- D. Finish: All sheet metal parts shall be provided with a rust inhibiting phosphating coating and baked enamel finish. All hardware shall be plated to prevent corrosion. All screws extending into the wireway shall be protected by spring nuts or otherwise guarded to prevent wire insulation damage.

2.6 CONDUIT SUPPORTS

- A. Conduit clamps, straps and supports: Steel or malleable iron.

2.7 CONDUIT FITTINGS

- A. Use compression fittings for all EMT in exposed areas. Utilize set screw fittings only above hung ceilings and concealed areas.

2.8 SURFACE METAL RACEWAY

- A. Metal raceway shall be of a two-piece design with a base and snap-on cover.
- B. Raceway and all components shall be listed by Underwriters Laboratories
- C. Single Channel: Steel, zinc plated, off-white finish suitable for repainting. Two piece design with metal base and snap-on cover. Wire Mold V700, Hubbell Inc. 750 Series, or Panduit PMR5/PMR7
- D. Dual Channel: Steel, galvanized, off-white finish but suitable for repainting. Two-piece design with metal base and snap-on cover, minimum 0.04" thick base and cover. Base shall be divided by a removable barrier section. Provide duplex receptacles mounted in top cell and communication outlets in the bottom cell. Coordinate communications jack requirements with owner's IT personnel. Wiremold V4000, Wiremold DS4000 Series, Hubbell Inc. 4000 Series or Panduit PMR40.

PART 3 - EXECUTION

3.1 CONDUIT SIZING, ARRANGEMENT AND SUPPORT

- A. Minimum size - 3/4". Provide grounding bushings on all conduits 1-1/4" and larger.
- B. Arrange conduit to maintain headroom and present a neat appearance.
- C. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping.
- D. Draw up couplings and fittings full and tight. Protect threads cut in field from corrosion. Paint newly threaded joints of steel conduit with T & B "Kopershield" compound before installation. Running threads prohibited; use three-piece unions or split couplings instead. Use only compression fittings for all EMT in areas where it will be exposed in finished and unfinished areas. Provide set screw fittings only when installed above hung ceilings.
- E. Maintain minimum 6-inch clearance between conduit and piping. Maintain 12-inch clearance between conduit and heat sources such as flues; steam pipes and heating appliances.
- F. Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Fasten conduit using galvanized straps, lay-in adjustable hangers, clevis hangers, or bolted split stamped galvanized hangers.
- G. Group conduit in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps. Provide space for 25 percent additional conduit.
- H. Do not fasten conduit with wire or perforated pipe straps. Remove all wire used for temporary conduit support during construction, before conductors are pulled.
- I. Exposed conduit on ceiling shall be parallel or perpendicular to wall and vice versa to ceiling when installed on wall. Secure conduit clamps and supports to masonry materials by toggle bolt, expansion bolt or steel insert. Spacing of conduit supports shall not exceed 7 feet.

3.2 CONDUIT INSTALLATION

- A. Cut conduit square using a saw or pipe cutter, Deburr cut ends.
- B. Bring conduit to the shoulder of fittings and couplings and fasten securely.
- C. Use conduit hubs or sealing locknuts for fastening conduit to cast boxes and for fastening conduit to sheet metal boxes in damp or wet locations.
- D. Install no more than the equivalent of three 90-degree bends between boxes.
- E. Use conduit bodies to make sharp changes in direction, as around beams.
- F. Use hydraulic one-shot conduit bender or factory elbows for bends in conduit larger than 2-inch size.
- G. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at conduit low point.
- H. Use suitable conduit caps to protect installed conduit against entrance of dirt and moisture.
- I. Provide No. 12 AWG insulated conductor or suitable pull string in empty conduit, except sleeves and nipples.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CONDUIT

- J. Install expansion-deflection joints where conduit crosses building expansion or seismic joints.
- K. Where conduit penetrates fire-rated walls and floors, provide pipe sleeves two sizes larger than conduit; Pack void around conduit with fire-stop fittings with UL listed fire rating equal to wall or floor ratings; Seal opening around conduit with UL listed foamed silicone elastomer compound.
- L. Installation of conduit in slab shall comply with ACI 318.
- M. Route conduit through roof openings for piping and duct work where possible; otherwise, route through roof with pitch pocket.
- N. Maximum size conduit in slabs above grade: 1 inch. Do not route conduits to cross each other in slabs above grade. Conduits crossing each other may not be larger than 3/4 inch.
- O. All conduit used for fire alarm system shall be painted red.

3.3 CONDUIT INSTALLATION OF SCHEDULE

- A. Underground installations: PVC minimum Schedule 40 conduit, unless otherwise noted on Drawings.
- B. Installations in or under concrete slab: PVC minimum Schedule 40 conduit, unless otherwise noted on Drawings.
- C. Exposed outdoor locations: Rigid galvanized steel conduit.
- D. Wet interior locations: Rigid galvanized steel conduit.
- E. Concealed dry interior locations and above accessible ceiling for receptacle and lighting branch wiring: Electrical metallic tubing up to first junction box and flexible metallic tubing (MC cable only) thereafter.
- F. Concealed dry interior locations other than receptacle and lighting branch wiring: Electrical metallic tubing.
- G. Concealed dry interior locations and above accessible ceiling for fire alarm runs: Fire alarm armored cable type MC with red stripe as manufactured by AFC series 1800.
- H. Concealed and exposed dry interior location for feeder runs: Electric metallic tubing.
- I. Exposed dry interior in unfinished locations other than Boiler Rooms: Electric metallic tubing.
- J. Final connections to motors: Flexible metallic tubing (MC cable). Minimum of 10" to maximum of 6' for connections to motors.
- K. Existing exposed dry interior locations (finished spaces), for branch wiring and fire alarm wiring, one-piece steel raceway (similar to Wiremold V-500, V-700).
- L. Final connections to motors: Flexible metallic tubing (MC cable). Minimum of 18" to maximum of 6' for connections to motors.
- M. All conduit installed in boiler room up to 10'-0" AFF and lower shall be rigid galvanized steel conduit. All conduit above 10'-0" shall be electric metallic tubing.
- N. Final connections to equipment and/or motors in boiler room, outdoors and potentially wet indoor areas: liquid tight, flexible; minimum of 18" to maximum 6'-0" connections.

END OF SECTION

26 0200-4

FULLER AND D'ANGELO, P.C.
ARCHITECTS AND PLANNERS

SECTION 26 0300

WIRE AND CABLE

PART 1 - GENERAL

Applicable provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all material, labor, tools and services necessary to wire and cable in raceway specified in other sections to complete all work shown on the Drawings or specified herein.

PART 2 - PRODUCTS

2.1 BUILDING WIRE

- A. Thermoplastic-insulated building wire: Type THHN.
- B. Rubber insulated building wire: NEMA WC 3.
- C. Feeders and branch circuits larger than number 6 AWG: Copper, stranded conductor, 600 volt insulation, type THHN.
- D. Feeder and branch circuits 6 AWG and smaller: Copper conductor, 600 volt insulation, THWN/THHN, 6 and 8 AWG, stranded conductor; Smaller than 8 AWG, solid conductor.
- E. Service feeders and branch circuits in conduit in contact with earth shall be type XHHW.
- F. Control circuits: Copper, stranded conductor 600 volt insulation, THHN.

2.2 ARMORED CABLE

- A. BX or pre-manufactured cables are not acceptable except for Type MC for branch wiring after the first junction box (for receptacle and lighting branch circuits) and final connections to motors in interior dry accessible locations, minimum length shall be 18" with a maximum length of 6' for motors.
- B. Type MC fire alarm cable with red stripe for concealed fire alarm wiring as manufactured by AFC series 1800.
- C. Armored cable, Type MC size 14 through 6 AWG: Copper conductor, 600 volt thermoplastic insulation, rated 90 degrees C., with separate green ground conductor.

2.3 REMOTE CONTROL AND SIGNAL CABLE

- A. Control cable for class 2 or class 3 remote control and signal circuits:
- B. Copper conductor, 300 volt insulation, rated 60 degree C, individual conductors twisted together shielded and covered with a nonmetallic jacket; UL listed for use in air handling ducts, hollow spaces used as ducts and plenums. Verify wiring type with manufacturer.

2.4 COLOR CODING

- A. All wiring shall be color-coded. Neutral wire shall be white throughout and each phase wire shall be identified any place in the system by its color code. All conductors in panel boxes and junction boxes shall be properly tagged with red non-flammable tags properly attached.
- B. Wire shall be color coded as follows:
- | <u>120/208 volt system</u> | | <u>Fire Alarm</u> |
|----------------------------|-------|-------------------|
| A Phase | Black | Red |
| B Phase | Red | |
| C Phase | Blue | |
- C. Equipment ground wires or ground jumpers shall be Green.
- D. In addition to the basic color-coding described the following additional identification and tagging shall apply.
1. The switch legs for the local wall switches and in switch panel shall have distinctive stripes. In instances where color-coding is not practicable, such as short runs of heavy feeder cables, taping the ends of the cable with coded colors as indicated above or tagging will be permitted.
 2. Cables shall be tagged in all pull boxes, wireways and wiring gutters of panels.
 3. Where two (2) or more circuits run to or through a control device, outlet box or junction box, each circuit shall be tagged as a guide in making connections.
 4. Tags shall identify wire or cable by number and/or piece of equipment served as shown on the Drawings.

PART 3 - EXECUTION

3.1 GENERAL WIRING METHODS

- A. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 14 AWG for control wiring.
- B. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 75 feet and for 20 ampere.
- C. Place an equal number of conductors for each phase of a circuit in same raceway or cable. No more than one of each phase shall be supported by a single neutral.
- D. Splice only in junction or outlet boxes.
- E. Neatly tag, identify, train and lace wiring inside boxes, equipment and panelboards.
- F. Make conductor lengths for parallel circuits equal.

3.2 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Use UL listed wire pulling lubricate for pulling 4 AWG and larger wires.
- B. Completely and thoroughly swab raceway system before installing conductors.

- C. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.

3.3 CABLE INSTALLATION

- A. Support cables above accessible ceilings; do not rest on ceiling tiles. Use spring metal clips or metal cable ties to support cables from structure (not ceiling suspension system). Include bridle rings or drive rings.
- B. Use suitable cable fitting and connectors.

3.4 WIRING CONNECTIONS AND TERMINATIONS

- A. Splice only in accessible junction boxes.
- B. Use solderless pressure connections with insulating covers for copper wire splices and tape, 8 AWG and smaller. For 10 AWG and smaller, use insulated spring wire connectors with plastic caps.
- C. Provide extended gutters and tap blocks or pull boxes with tap rail systems similar to Burndy MT Series or Burndy Electroraill system for wire splices 6 AWG and larger.
- D. Tape uninsulated conductors with electrical tape to 150 percent of the insulation value of conductor.
- E. Thoroughly clean wires before installing lugs and connectors.
- F. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.
- G. Terminate spare conductors with electrical tape.

3.5 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of the Specifications.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Torque test conductor connections and terminations to manufacturer's recommended values.
- D. Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

3.6 WIRE AND CABLE INSTALLATION SCHEDULE

- A. All wiring and cable shall be installed in conduit unless otherwise noted. Refer to conduit section 26 0200 for conduit types at various location.

END OF SECTION

SECTION 26 0320

OVERCURRENT PROTECTIVE DEVICES

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. Work of this section includes all labor, materials, equipment and services necessary to complete the electrical work as shown on the Drawings and specified herein, including, but not limited to, the following:
- B. Circuit Breakers
 - 1. Standard molded case circuit breakers "bolted in" type.
 - 2. Solid state circuit breakers.
 - 3. Current limiting circuit breakers.
 - 4. Enclosed circuit breakers.

1.2 SUBMITTALS

- A. Shop drawings showing dimensions, location of equipment and method of installation.
- B. Product Data: Manufacturer's printed data, catalog cuts.

1.3 DISCONNECT SWITCHES

- A. Fusible switch assemblies: Quick-make, quick-break, load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover when switch is in ON position. Handle lockable in OFF position. Fuse clips shall be designed to accommodate Class R, J fuses.
- B. Non-fusible switch assemblies: Quick-make, quick-break, load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover when switch is in ON position. Handle lockable in OFF position.
- C. Enclosures: NEMA Type 1, 3R or 4 as required.

1.4 CIRCUIT BREAKERS

- A. "Bolted-In" type, manually operated, quick-make, quick-break, mechanically trip-free operating mechanisms for simultaneous operation, of all poles, with contacts, arc interrupters and trip elements for each pole. "Plug-in" breakers are not permitted.
- B. Tripping units shall be "thermal-magnetic" type having bimetallic elements for time delay overload protection, and magnetic elements for short circuit protection.
- C. Manually operable by means of toggle type operating handles having tripped positions midway between the "on-off" position. Handle to be clearly labeled as to breaker rating.
- D. Minimum frame size for all circuit breakers, 1, 2, or 3 pole shall be 100 amperes.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
OVERCURRENT PROTECTIVE DEVICES

- E. Their interrupting rating shall not be less than 25,000 amperes RMS symmetrical at 208 volt for distribution panels and 10,000 amperes for power panels.

1.5 APPLICATIONS

- A. Category of Application for Fuses:
 - 1. Feeders on switchboards.
 - 2. Branch fused switch unit in distribution panel.
 - 3. Fused safety switch.
 - 4. Combination motor starters.
- B. Category of Application for Circuit Breakers:
 - 1. Panelboards.
 - 2. Switchboards.
 - 3. Individual enclosures.
 - 4. Combination motor starters.

1.6 APPROVED MANUFACTURERS

- A. Circuit Breakers: Siemens, General Electric, Square D.

1.7 INSTALLATION

- A. All material installation shall be in accordance with manufacturer recommendations and the provisions of all applicable codes.
- B. Circuit breakers shall be selectively coordinated.
- C. Install disconnect switches where indicated on Drawings.
- D. Disconnects shall have NEMA 3R enclosure.

1.8 RECORD DRAWINGS

- A. Shop drawings showing dimensions, location of equipment and method of installation.
- B. Product Data: Manufacturer's printed data, catalog cuts, performance curves.

END OF SECTION

SECTION 26 0350

BOXES

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all material, labor, tools and services necessary to install wall and ceiling outlet boxes, floor boxes, pull and junction boxes to complete all work shown on the Drawings or specified herein.

1.2 RELATED WORK

- A. Access doors.
- B. Wiring devices: Service fittings and fire-rated poke-through fittings for floor boxes.
- C. Cabinets and enclosures.

PART 2 - PRODUCTS

2.1 OUTLET BOXES

- A. Sheet metal outlet boxes: ANSI/NEMA OS 1; Galvanized steel, with 1/2 inch male fixture studs where required.
- B. Cast boxes: Cast fer alloy, deep type, gasketed cover, threaded hubs.
- C. Typical receptacle box shall be 4" square metal boxes, 30.8 cubic inch capacity with brackets as required. Provide 4" square raised device covers.

2.2 PULL AND JUNCTION BOXES

- A. Sheet metal boxes: ANSI/NEMA OS 1; Galvanized steel.
- B. Sheet metal boxes larger than 12 inches in any dimension: hinged enclosure in accordance with Section 26 0450.
- C. Cast metal boxes for outdoor and wet location installations: NEMA 250; Type 4 and type 6, flat-flanged, surface-mounted junction box, UL listed as raintight. Galvanized cast iron box and cover with ground flange, neoprene gasket, and stainless steel cover screws.
- D. Cast metal boxes for underground installation: NEMA 250; Type 4, inside flanged, recessed cover box for flush mounting, UL listed as raintight. Galvanized cast iron box and plain cover with neoprene gasket and stainless steel cover screws.

PART 3 - EXECUTION

3.1 COORDINATION OF BOX LOCATIONS

- A. Provide electrical boxes as required in excess of that shown on Drawings and as required for splices, taps, wire pulling, equipment connections and code compliance.
- B. Electrical box locations shown on Contract Drawings are approximate unless dimensioned. Verify location of floor boxes and outlets in offices and work areas prior to rough-in.
- C. Locate and install boxes to allow access. Where installations are accessible, coordinate locations and sizes of required access doors with Division 1.
- D. Locate and install to maintain headroom and to present neat appearance.

3.2 OUTLET BOX INSTALLATION

- A. Do not install boxes back-to-back in walls. Provide minimum 6 inch separation, except provide minimum 24 inch separation in acoustic-rated walls.
- B. Locate boxes in masonry walls to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat openings for boxes.
- C. Provide knockout closures for unused openings.
- D. Support boxes independently of conduit except for cast iron boxes that are connected of rigid metal conduits, both supported within 12 inches of box.
- E. Use multiple-gang boxes where more than one device is mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems.
- F. Install boxes in wall without damaging wall insulation.
- G. Coordinate mounting heights and locations of outlets mounted above counters, benches and backspaces.
- H. Position outlets to locate luminaires as shown on reflected ceiling plans.
- I. In inaccessible ceiling areas, position outlets and junction boxes within 6 inches of recessed luminaire, to be accessible through luminaire ceiling opening.
- J. Provide recessed outlet boxes in finished areas; secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.
- K. Align wall-mounted outlet boxes for switches, thermostats, and similar devices.
- L. Provide cast outlet boxes in exterior locations exposed to the weather and wet locations.

3.3 PULL AND JUNCTION BOX INSTALLATION

- A. Locate pull boxes and junction boxes above accessible ceilings or in unfinished areas.
- B. Support pull and junction boxes independent of conduit.

3.4 FLOOR BOX INSTALLATION

- A. Set boxes level and flush with finish flooring material.
- B. Use cast iron floor boxes for installation in slab on grade.

END OF SECTION

SECTION 26 0400

WIRING DEVICES

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all materials, labor, tools and services necessary to install receptacles, service fittings device plates and box covers to complete all work shown on the Drawings or specified herein.

1.2 REFERENCES

- A. FS W-C-596 - Electrical power connector, plug, receptacles and cable outlet.
- B. FS W-S-896 - Switch, toggle.
- C. NEMA WD 1 - General purpose wiring devices.
- D. NEMA WD 5 - Specific-purpose wiring devices.

1.3 SUBMITTALS

- A. Submit product data under Provisions of Contract and Division 1.
- B. Provide product data showing configurations, finishes, dimensions and manufacturer's instructions.

PART 2 - PRODUCTS

2.1 RECEPTACLES

- A. Convenience and straight-blade receptacles: 125 V, 2 pole, 3 wire, 20 ampere specification grade, ground fault interrupting or isolated ground type.
- B. Internal ground clip of receptacles shall be in one piece with the receptacle mounts.
- C. Receptacles with riveted ground clips will not be accepted.
- D. Isolated ground type receptacle shall be orange in color.

2.2 WALL SWITCHES

- A. Wall switches for lighting circuits and motor loads under 1/2 hp: AC general use snap switch with toggle handle, rated 20 amperes and 120-277 volts AC.
- B. Handle: Ivory plastic.
- C. Pilot light type: Lighted handle. Pilot strap in adjacent gang.
- D. Locator type: Lighted handle.

2.3 COVER PLATES

- A. Decorative cover plate: Stainless steel 302/304 smooth Hubbell "S" series.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install receptacles on roof along parapet wall.
- B. Install specific use receptacles at heights shown on contract drawings.
- C. Drill opening for poke - through fitting installation in accordance with manufacturer's instructions.
- D. Install plates on switch, receptacle, and blank outlets in finished areas, using jumbo size plates for outlets installed in masonry walls.
- E. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings and on surface mounted outlets.
- F. Install devices and wall plates flush and level.

END OF SECTION

SECTION 26 0500

SUPPORTING DEVICES

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all material, labor, tools and services necessary to install rigid metal conduit, electrical metallic tubing and flexible metal conduit, including all fittings to complete all work shown on the Drawings or specified herein.

1.2 RELATED WORK

- A. Conduit and equipment supports.
- B. Fastening hardware.

1.3 REFERENCES

- A. Conduit supports.

1.4 QUALITY ASSURANCE

- A. Support system shall be adequate for weight of equipment and conduit, including wiring, which they carry.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Support channel: Galvanized or painted steel.
- B. Hardware: Corrosion resistant.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use toggle bolts or hollow wall fasteners in hollow masonry, plaster, or gypsum board partitions and walls; Expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion anchors on concrete surfaces; sheet metal screws in sheet metal studs and wood screws in wood construction.
- B. Do not fasten supports to piping, ductwork, mechanical equipment, or conduit.
- C. Do not use powder-actuated anchors.
- D. Fabricate supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.
- E. In wet locations install free-standing electrical equipment on concrete pads.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
SUPPORTING DEVICES

- F. Install surface mounted cabinets and panelboards with minimum of four anchors. Provide steel channel supports to stand cabinet one inch off wall.
- G. Bridge studs top and bottom with channels to support flush mounted cabinets and panelboards in stud walls.

END OF SECTION

SECTION 26 0550

GENERAL LABELING AND IDENTIFICATION

PART 1 - GENERAL

Applicable Provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all material, labor, tools and services necessary to install nameplates, tape labels, wire markers, conduit color coding to complete all work shown on the Drawings or specified herein.

1.2 RELATED WORK

- A. Painting.

1.3 SUBMITTALS

- A. Submit shop drawings under provisions of Division 1.
- B. Include schedule for nameplates and tape labels.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Nameplates: Engraved three-layer laminated plastic, white letters on a black background.
- B. Tape labels: Embossed adhesive tape with 3/16 inch black letters on a white background.
- C. Wire and cable markers: Cloth markers, split sleeve or tubing type.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. De-grease and clean surfaces to receive nameplates and tape labels.
- B. Install nameplates and tape labels parallel to equipment lines.
- C. Secure nameplates to equipment fronts using screws, rivets, or adhesive. Secure nameplate to inside face of recessed panelboard doors in finished locations.
- D. Embossed tape will not be permitted for any application. Use embossed tape only for identification of individual wall switches and receptacles and control device stations.

3.2 WIRE IDENTIFICATION

- A. Provide wire markers on each conductor in panelboard gutters, pull boxes, outlet and junction boxes and at load connection. Identify each branch circuit or feeder number for power and lighting circuits and each control wire number as indicated on equipment manufacturer's shop drawings for control wiring.

3.3 NAMEPLATE ENGRAVING SCHEDULE

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
GENERAL LABELING AND IDENTIFICATION

- A. Provide nameplates to identify all electrical distribution, control equipment and loads served including year of installation. Letter height: 1/2 inch for individual switches, loads served, distributions and control equipment identification. For example:



- B. Panelboards: 3/4 inch, identify equipment designation. 1/2 inch, identify voltage rating and source of power.
- C. Individual circuit breakers, switches and motor starters in panelboards, switchboards and motor control centers: 1/4 inch, identify circuit and load served, including location.
- D. Individual circuit breakers, enclosed switches and motor starters: 1/2 inch, identify load served.

3.4 FIRE ALARM

- A. All fire alarm raceway components shall be painted red and identified.

END OF SECTION

SECTION 26 0575

INTERIOR LUMINAIRES

PART 1 - GENERAL

Applicable provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. Interior luminaires and accessories.
- B. Emergency lighting units.
- C. Exit signs.
- D. LED Driver.
- E. LED dimming and controls.
- F. LED emergency power supply.
- G. Lamps.
- H. Luminaire accessories.

1.2 REFERENCES

- A. ANSI/IES RP-16-10 – Nomenclature and Definitions for Illuminating Engineering.
- B. ANSI C78.37 7 – Specifications for the Chromaticity of Solid-State Lighting (SSL) Products.
- C. IES LM-79-08 – Electric and Photometric Measurements of Solid-State Lighting Products.
- D. IES LM-80-08 – Measuring Lumen Maintenance of LED Light Sources.
- E. IES 7M-21-11 – Projecting Long Term Lumen Maintenance of LED Light Sources.
- F. IES LM-82-11 – IES Approved Method for the Characterization of LED Light Engines and LED Lamps for Electrical and Photometric Properties as a Function of Temperature.
- G. UL 8750 – LED Equipment for Use in Lighting Products.
- H. NEMA WD 6 - Wiring Devices – Dimensional Requirements.
- I. NFPA 70 - National Electrical Code.
- J. NFPA 101- Life Safety Code.

1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five (5) years documented experience.

1.4 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70 and to requirements of NFPA 101.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. (UL), American National Standards Institute (ANSI) and Illuminating Engineering Society (IES).

1.5 SUBSTITUTIONS

- A. All proposed substitutions must be submitted with each light fixture specification cutsheet, accompanied with footcandle calculation for all spaces, provided for Architect and Engineer's review, prior to approval.
- B. If the substitution is accepted, the contractor accepts responsibility and associated costs for all required modifications to circuitry, devices, and wiring.

PART 2 - PRODUCTS

2.1 LUMINAIRES

- A. Furnish Products as scheduled.

2.2 EXIT SIGNS

- A. Manufacturers: As scheduled.
- B. Description: Exit sign fixture suitable for use as emergency lighting unit.
- C. Housing: Extruded aluminum or steel as per schedule.
- D. Face: Aluminum stencil face with red letters, unless otherwise noted.
- E. Directional Arrows: Universal type for field adjustment, direction per drawing.
- F. Mounting: Universal, for field selection or per drawing.
- G. Lamps: L.E.D.
- H. Input Voltage: As scheduled.

2.3 LED DRIVERS

- A. Manufacturers: As scheduled.
- B. Voltage: As scheduled.

2.4 LAMPS

- A. Lamp Types: As specified for luminaire. LED source.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install suspended luminaires and exit signs using pendants supported from swivel hangers. Provide pendant length required to suspend luminaire at indicated height.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
INTERIOR LUMINAIRES

- B. Support luminaires 2 x 4 foot (600 x 1200 mm) and larger in size independent of ceiling framing.
- C. All lay-in luminaries shall be supported with chains to building structure.
- D. Install surface mounted luminaires and exit signs plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- E. Exposed Grid Ceilings: Support surface mounted luminaires on grid ceiling directly from building structure. Provide auxiliary members spanning ceiling grid members to support surface mounted luminaires. Fasten surface mounted luminaires to ceiling grid members using bolts, screws, rivets, or suitable clips.
- F. Install wall mounted luminaires, emergency lighting units and exit signs at 80" above finished floor, unless otherwise noted.
- G. Install accessories furnished with each luminaire.
- H. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- I. Bond products and metal accessories to branch circuit equipment grounding conductor.
- J. Install specified lamps in each emergency lighting unit, exit sign, and luminaire.

3.2 FIELD QUALITY CONTROL

- A. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.3 ADJUSTING

- A. Aim and adjust luminaires as indicated.
- B. Position exit sign directional arrows as indicated.

3.4 CLEANING

- A. Clean electrical parts to remove conductive and deleterious materials.
- B. Remove dirt and debris from enclosures.
- C. Clean photometric control surfaces as recommended by manufacturer.
- D. Clean finished and touch up damage.

3.5 PROTECTION OF FINISHED WORK

- A. Relamp luminaires that have failed lamps as substantial completion.

END OF SECTION

SECTION 26 0600

DISCONNECT SWITCHES

PART 1 - GENERAL

Applicable provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all materials, labor, tools and services necessary to install disconnect switches, fuses and enclosures to complete all work shown on the Drawings or specified herein.

1.2 SUBMITTALS

- A. Submit product data under Provisions of Contract and Division 1.
- B. Include outline Drawings with dimensions, equipment ratings for voltage, capacity, horsepower and short circuit.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - DISCONNECT SWITCHES

- A. Siemens.
- B. Square 'D'.
- C. General Electric.
- D. Or approved equal.

2.2 DISCONNECT SWITCHES

- A. Fusible switch assemblies: Quick-make, quick-break, load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch is in ON position. Handle lockable in OFF position. Fuse clips: Designed to accommodate class R, J fuses.
- B. Non-fusible switch assemblies: Quick-make, quick-break, load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Handle lockable in OFF position.
- C. Enclosures: NEMA Type 1; 3R; 4 as indicated on Drawings.

2.3 ACCEPTABLE MANUFACTURERS - FUSES

- A. Bussman.
- B. Ferraz-Shawmut.
- C. Or approved equal.

2.4 FUSES

- A. Fuses 600 amperes and less: ANSI/UL 198E, class RK1; RK5; Dual element, current limiting, time delay, 250 volt.
- B. Interrupting rating: 200,000 rms amperes.
- C. An additional fuse of each size required to be supplied.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install disconnect switches where indicated on Drawings.
- B. Install fuses in fusible disconnect switches.
- C. Disconnects installed outdoors shall have NEMA 3R enclosures.
- D. Disconnects installed indoors in dry locations shall have NEMA 1 enclosure.

END OF SECTION

SECTION 26 0650

GROUNDING

PART 1 - GENERAL

Applicable provisions of the conditions of the Contract and Division 1 General Requirements govern the work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all materials, labor, tools and services necessary to install the power system grounding to complete all work shown on the Drawings or specified herein.

1.2 RELATED WORK

- A. Panelboards.
- B. Raceways.
- C. Connection Equipment.
- D. Electric Equipment.
- E. Tests and Acceptance.
- F. Transformers.
- G. Electric Service.

1.3 SUBMITTALS

- A. Manufacturers' data, catalog cuts of ground rods, connectors, bushings, etc., along with recommended installation procedures.

PART 2 - PRODUCTS

2.1 WIRING

- A. All wiring used for grounding shall be insulated copper, unless otherwise noted. Size shall be in accordance with code for the application, minimum #12.
- B. Where used in conjunction with computer equipment, grounding conductors shall be equal in size to the phase conductors.
- C. Avoid splices in ground conductors.

2.2 RACEWAY

- A. Grounding continuity shall be maintained for all metallic raceways.
- B. Provide bonding jumpers across metal parts separated by non-conducting materials.
- C. Where a grounding conductor is installed as a supplement to metallic raceway serving as the equipment grounding conductor, bonding conductor to the raceway at each end.

- D. All raceway accessories, such as locknuts, bushings, expansion fittings, etc. shall be installed to provide maximum metal-to-metal bonding.

2.3 CLAMPS

- A. Provide approved ground clamps for connecting grounding conductors to pipe, conduits, wireways, building steel, grounding rods, etc.
- B. Where bond will be in an inaccessible location or as an alternate to ground clamps, provide exothermic weld, similar to Cadweld.

2.4 ACCESSORIES

- A. Provide all necessary accessories of appropriate size and material for connection or termination of grounding conductors including:
 - 1. Straps.
 - 2. Clamps.
 - 3. Lugs.
 - 4. Bars and buses.
 - 5. Isolators (where applicable).
 - 6. Locknuts and bushings.

2.5 ACCEPTABLE MANUFACTURERS

- A. Copperweld.
- B. Cadweld (for exothermic welds).
- C. O.Z. Gedney.
- D. Burndy.

PART 3 - EXECUTION

3.1 SERVICE ENTRANCE/SWITCH

- A. Coordinate all bonding and grounding requirements of the service entrance with the utility company.
- B. Provide ground lug in each switchboard, minimum 25% of phase bus, along entire length of switchboard.
- C. Separately connect each ground to existing grounding electrode. Test existing grounding electrode for proper resistance values and provide all necessary modifications required.

3.2 TRANSFORMERS

- A. Bond each transformer secondary neutral to nearest building structural column or beam via transformer case grounding stud.
- B. Provide jumper between transformer case and all conduit bushings.
- C. Where a separate equipment-grounding conductor is provided the primary and/or secondary feeders; bond to transformer grounding stud.
- D. Where isolation shield is provided, bond to transformer grounding stud.

- E. Where a separate ground riser is provided in addition to or instead of building steel; bond transformer-grounding stud to the ground riser.

3.3 STRUCTURAL STEEL BUILDINGS

- A. Select a column common to aligned electric closets as the bonding column for grounding of transformer neutrals, isolated grounds and separate equipment grounding conductors.
- B. All grounding conductors in each closet shall be bonded in close proximity to one another.
- C. Where a grounding conductor to be bonded is not in proximity to the common column, bond to the nearest column or structural beam.
- D. Provide bonding jumper strap across all structural expansion joints where the grounding integrity of the structural system is reduced

3.4 RACEWAYS

- A. Grounding continuity is to be maintained for all metallic raceways. Provide necessary clamps, bushings, straps and locknuts to assure continuity.
- B. For non-metallic or flexible raceways, provide a separate equipment-grounding conductor bonded to both ends.
- C. Where indicated, an additional equipment-grounding conductor shall be provided in metallic raceway.
- D. Where indicated, an isolated ground conductor shall be provided in addition to the equipment-grounding conductor. Bond at each end to the isolated ground terminal identified.

3.5 EQUIPMENT

- A. All equipment shall be grounded.
- B. Where isolated grounding is indicated, it shall be for the isolation of internal equipment components only. All metallic enclosures of such equipment shall be connected to the equipment ground system.

3.6 PANELBOARDS

- A. All panelboards and distribution panels shall be provided with a ground bar bonded to the enclosure. Provide an isolated ground bar connected to the incoming feeder ground where indicated.

3.7 TESTING

- A. Upon completion of the installation, confirm the grounding continuity of all raceways, conductors and equipment. Maximum allowable resistance is 25 ohms.

3.8 RECORD DRAWINGS

- A. Submit record As-Built Drawings indicating the location of all points where grounding conductors are bonded to steel, rods, plates, etc.
- B. Indicate the location of all grounding buses not installed within distribution equipment.

END OF SECTION

SECTION 26 0700

PANELBOARDS

PART 1 - GENERAL

Applicable provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 WORK INCLUDED

- A. The work under this section shall include the furnishing of all materials, labor, tools and services necessary to install the panelboards and to complete all work shown on the Drawings or specified herein.

1.2 RELATED WORK

- A. Grounding
- B. Overcurrent Protection

1.3 SUBMITTALS

- A. Submit shop drawings for equipment and component devices under provisions of Division 1.
- B. Include outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker and fusible switch arrangement and sizes.
- C. Furnish two (2) sets of keys to Owner.

1.4 REFERENCES

- A. FS W-C-375 - Circuit breakers, molded case, branch circuit and service.
- B. FS W-P-115 - Power distribution panel.
- C. NEMA AB 1 - Molded case circuit breakers.
- D. NEMA KS 1 - Enclosed switches.
- E. NEMA PB 1 - Panelboards.
- F. NEMA PB 1.1 - Instruction for safe installation, operation and maintenance of panelboard rated 600 volts or less.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PANELBOARD AND LOAD CENTERS

- A. Siemens.
- B. Square "D".
- C. General Electric.
- D. Or approved equal.

2.2 BRANCH CIRCUIT PANELBOARDS

- A. Lighting and appliance branch circuit panelboards: NEMA PB 1; circuit breaker type.
- B. Enclosure: NEMA PB 1; Type 1.
- C. Cabinet size: Approximately 6 inches deep; 20 inches wide for 240 volt and less panelboards. Verify field conditions and alter dimensions to suit at no additional cost.
- D. Provide surface cabinet front door-in-door with concealed trim clamps, concealed hinge and flush lock all keyed alike. Finish in manufacturer's standard gray enamel.
- E. Provide panelboards with copper bus, rating as scheduled on Drawings. Provide copper ground bus in all panelboards and isolated ground bus in those as indicated on Drawings.
- F. Minimum integrated short circuit rating: 10,000 amperes rms symmetrical for 240 volt rated for 125 amps or less, 22,000 amperes rms symmetrical for 240 volt rated greater than 125 amps to 225 amps and 30,000 amperes for emergency power panelboards (verify in field). If panelboard is noted as a main distribution panelboard, than panel shall be rated as a distribution panelboard. Contractor shall provide short circuit study to ensure adequacy.
- G. Molded case circuit breakers: Bolt-on type thermal magnetic trip handle for all poles. Provide circuit breakers UL listed as type SWD for lighting circuits. Breaker handle to indicate ampere rating.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install panelboards flush or surface mounted as indicated on Drawings.
- B. Mounting height maximum 6 ft. (2 m) to top circuit breaker.
- C. Provide filler plates for unused spaces in panelboards.
- D. Provide type written circuit directory for each branch circuit panelboard. Indicate loads served and panel name by matching that shown on panel schedules on Drawings. Revise directory to reflect circuiting changes required to balance phase loads. Provide a second copy and turn over to Owner.
- E. Provide 3/4" thick plywood backboard for mounting of panels. Paint backboard with fire retardant paint.
- F. Provide nameplates as indicated in Section 26 0550.

3.2 FIELD QUALITY CONTROL

- A. Measure steady state load currents at each panelboard feeder. Should the difference at any panelboard between phases exceed 20 percent, rearrange circuits in the panelboard to balance the phase loads within 20 percent. Take care to maintain proper phasing for multi-wire branch circuits.
- B. Visual and mechanical inspection: Inspect for physical damage, proper alignment, anchorage and grounding. Check proper installation and tightness of connections for circuit breakers, fusible switches and fuses.
- C. Provide thermographic inspections in accordance with Section 26 0100.

3.3 TESTS

- A. Submit certification that each panelboard has withstood, without breakdown, a factory dielectric (Hi-Pot) test consisting of a one minute application of a 60 cycle AC test voltage applied between phase legs and from each phase leg to enclosure.
- B. The applied test voltage shall have an RMS value of at least twice the line to line system voltage to which the panelboard is to be applied, plus one thousand volts (minimum 1500V).

3.4 RECORD DRAWINGS

- A. Submit as-built Drawings indicating the location of all panelboards.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
ADDRESSABLE FIRE PROTECTIVE SIGNALING SYSTEM

SECTION 26 08 00

ADDRESSABLE FIRE PROTECTIVE SIGNALING SYSTEM

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section. Submit shop drawings for checking and approval.

1.1 FIRE ALARM SYSTEM

- A. The existing fire alarm system is an addressable system. The fire alarm control panel is located in the boiler room.
- B. Add and modify as required to the existing system, as specified/shown on the drawings and as per field requirements. All devices shall be suitable for operation and compatible with existing system. Provide relays modules, cards, power supplies, etc. as required.
- C. Provide sufficient quantity of relays for fan shutdown as specified/shown on Drawings.
- D. Connect, test and leave the system in first class operating condition.
- E. The system shall maintain all applicable Local, State and National Codes including the National Electrical Code, NPFA-72, NFPA-101, ADA 1971 and NEC. The system shall be listed by Underwriter's Laboratories, Inc.
- F. The Electrical Contractor shall provide a manufacturers certified technician to supervise installation, adjustments, final connection and system testing.
- G. Fire alarm wiring and cable shall be per manufacturer's requirements.
- H. Fire alarm system test shall be in accordance with NFPA-72 and local fire department requirements.

END OF SECTION

SECTION 26 0900

GUARANTEE

PART 1 - GENERAL

Applicable Provisions of the Conditions of the Contract and Division 1 General Requirements govern work in this section.

1.1 GUARANTEE

- A. The Contractor shall remove, replace and/or repair at his own expense and at the convenience of the Owner, any defects in workmanship, materials, ratings, capacities and/or characteristics occurring in the work within one (1) year or within such longer period as may be provided in the Drawings and/or Section of the Specifications, which guarantee period shall commence with the final acceptance of the entire Contract in accordance with the guarantee provisions stated in the General Conditions, and the Contractor shall pay for all damage to the system resulting from defects in the work and all expenses necessary to remove, replace, and/or repair any other work which may be damaged in removing, replacing and/or repairing the work.

END OF SECTION

**SECTION 31 2316
EXCAVATION**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Excavating, trenching, and backfilling for utilities within the building and sump pump.
- B. Temporary excavation support and protection systems.
- C. Preparing subgrades for all excavate areas.
- D. Drainage course for slabs on grade and trenches
- E. Select fill.
- F. Bedding material.

1.3 RELATED REQUIREMENTS

- A. Section 01 7000 - Execution: Project conditions; protection of existing construction to remain.
- B. Section 03 3000 - Cast-in-Place Concrete.

1.4 REFERENCE STANDARDS

- A. ASTM D4318: Liquid Limit, Plastic Limit, and Plasticity Index of Soils (Atterberg Limits)
- B. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Project Record Documents: Record drawings at project closeout according to Section 01 7800 - Closeout Submittals. Show locations of below slab or grade piping and installed support materials left in place, including referenced locations and depths.
- C. Product Data: For the following:
 - 1. Contractor shall submit copies of proposed materials with locations, methods and operations of backfilling and compaction.

1.6 QUALITY ASSURANCE

- A. Comply with: New York State Department of Transportation (NYSDOT) "Standard Specifications for Construction and Materials". Notify Owner's Representative of conflicts with these specifications.
- B. Routine testing of existing soils and compacted material for compliance with these specifications will be performed as part of Contractor's responsibility.
 - 1. Compacted material not meeting density requirements shall be removed or re compacted and retested at Contractor's expense.
 - 2. Section 01 3000 - Administrative Requirements for Project Meetings.
 - a. Before commencing earthwork, meet with Owner's Representative, Contractor, and Testing Agency, and other concerned entities. Review earthwork procedures and responsibilities including testing and inspection procedures and requirements. Notify participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.
 - 3. Testing and Inspection Service: Contractor will employ and pay for a qualified independent geotechnical testing and inspection laboratory to perform soil testing and inspection service during earthwork operations to include but not be limited to the following:
 - a. Verification of suitability of subgrade material, in accordance with specified requirements.

- a) Field reports; in-place soil density tests.
 - b) One optimum moisture-maximum density curve for each type of soil encountered.
 - c) Inspections and certifications shall be performed by a licensed engineer registered in the State of New York.
- C. Temporary Support and Excavation Protection Plan:
- 1. Indicate sheeting, shoring, and bracing materials and installation required to protect excavations.
 - 2. Bracing and shoring design to meet requirements of OSHA's Excavation Standard, 29 CFR 1926, Subpart P.

1.7 DEFINITIONS

- A. Excavation classified as "unclassified" and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered, pavements and other obstructions visible on ground surface, underground structures, utilities and other items indicated to be demolished and removed, together with earth and other materials, including rock.
- B. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- C. Fill: Soil materials used to raise existing grades.
- D. Bedding Course: Course placed over the excavated subgrade in a trench for laying pipe.
- E. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- F. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below drainage fill and bedding course.
- G. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.8 PROJECT CONDITIONS

- A. Existing Utilities: Locate existing underground utilities in work area before starting earthwork operations.
 - 1. If uncharted or incorrectly charted piping or other utilities are encountered during excavation, consult with Owner's Representative immediately for directions. Cooperate with Owner's Representative and public and private utility companies to keep services and facilities in operation. Repair damaged utilities as required by utility owner.

1.9 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall provide adequate personnel and equipment to complete the Work as specified herein and within the agreed upon Project Construction Schedule. The Contractor shall employ qualified English-speaking supervisor who shall provide adequate and efficient coordination of the Work. The supervisor shall be present on the site on a continuous full-time basis and shall have the authority to act on behalf of the Contractor.
- B. The Contractor shall review all Drawings, Specifications and all other information included in Contract Documents and shall determine the quantities of the work to be completed and be responsible for the assumptions made in determining the cost of the Work.

1.10 PROTECTION

- A. Existing Utilities:
 - 1. Excavation and backfill operations shall be done in such a manner as to prevent cave-ins of excavations or the undermining, damage, or disturbing of existing utilities and structures or of new work.

2. Backfill shall be placed and compacted so as to prevent future settlement or damage to existing utilities, structures, new work, and in accordance with the requirements of the particular utility company.
3. Any excavation improperly backfilled or where settlement occurs shall be reopened to the depth required, then refilled with new materials and compacted, and the surface restored to the required grade and condition, at no additional cost to the Owner.

PART 2 PRODUCTS -

2.1 UNCLASSIFIED EXCAVATION

- A. Excavation for this project shall be "unclassified".
 1. Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
- B. Pipes and conduits shall be provided with 12 inches of Pipe Zone Bedding material as shown on drawings.

2.2 SOIL MATERIALS

- A. Drainage Fill: ASTM C-33 Blend 57, a blend of NYSDOT No. 1 and No. 2 crushed stone that complies with material specification requirements of Article 703-02 for crushed stone and the following limits of gradation:

% Passing By Weight	Sieve Size
100%	1" sieve.
40-50%	3/4"
25-60%	passing a 1/2" sieve.
10-30%	passing a 3/8" sieve
0-10%	passing a # 4 sieve.
0-5%	passing a # 8 sieve

1. Location: Use for all fill and backfill unless shown otherwise.
- B. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.
 1. Location: Bedding and Pipe Encasement Course as shown on drawings

2.3 ACCESSORIES

- A. Bedding and Fill to Correct Over-Excavation:
 1. Drainage Fill.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that intended elevations for the work are as indicated.

3.2 TEMPORARY EXCAVATION SUPPORT AND PROTECTION

- A. Excavation Safety: Comply with OSHA's Excavation Standard, 29 CFR 1926, Subpart P.
 1. Excavations in stable rock or in less than 5 feet (1.5 m) in depth in ground judged as having no cave-in potential do not require excavation support and protection systems.
 2. Depending upon excavation depth, time that excavation is open, soil classification, configuration and slope of excavation sidewalls, design and provide an excavation support and protection system that meets the requirements of 29 CFR 1926, Subpart P:

3.3 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrade, and from flooding Project site, and surrounding area.

- B. Protect subgrade from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - 2. Install continuous dewatering system, as required to keep subgrade dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
- C. The Contractor shall provide, maintain and operate pumps of adequate capacity required to maintain excavations, pits, trenches and depressions within the Contract Limit Lines as well as the Buildings free of water accumulated at any time and as necessary to permit the proper installation of the work required under all contracts. Disposal of pumped water shall be done with due respect to the rights of adjoining buildings. All costs in connection with the removal of water as above provided for shall be borne by the Contractor.

3.4 EXCAVATING GENERAL

- A. Excavate to accommodate construction operations.
 - 1. Excavate to the specified elevations.
 - 2. Cut utility trenches wide enough to allow inspection of installed utilities.
 - 3. Hand trim excavations. Remove loose matter.
- B. Notify Owner's Representative of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

3.5 FILLING AND BACKFILLING

- A. Do not fill or backfill until all debris, water, unsatisfactory soil materials, obstructions, and deleterious materials have been removed from excavation.
- B. Install underground warning tape at buried utilities .

3.6 REPAIR

- A. Correct areas that are over-excavated and load-bearing surfaces that are disturbed.

3.7 EXCAVATION FOR STRUCTURES

3.8 SUBGRADE INSPECTION

- A. Notify Owner's Representative when excavations have reached required subgrade.
- B. If Testing Laboratory determines that unsatisfactory soil is present, notify the Owner's Representative prior to proceeding. At the direction of the Owner's Representative, continue excavation and replace with compacted backfill or select fill material as directed.
 - 1. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

3.9 UNAUTHORIZED EXCAVATION

- A. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

3.10 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Surveying locations of underground utilities for record documents.
 - 2. Inspecting and testing underground utilities.
 - 3. Removing trash and debris.

3.11 UTILITY TRENCH BACKFILL

- A. Excavation for underslab piping or sump pump to elevations and dimensions required to meet existing piping and conditions.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

- C. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- D. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.
- E. Coordinate backfilling with utilities testing.
- F. Backfill voids with approved backfill materials while shoring and bracing, and as sheeting is removed.
- G. Place and compact final backfill of satisfactory soil to final subgrade elevation as shown on drawings.

3.12 COMPACTION OF BACKFILLS AND FILLS

- A. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- B. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material at 98 percent.
 - 2. Under pipe bedding 95 percent.
 - 3. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 95 percent.
 - 4. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 90 percent.

3.13 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.
- B. Testing Agency: The Contractor will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- C. Allow testing agency to inspect and test the following:
 - 1. Compaction of in place soil.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
 - 1. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet or less of trench length, but no fewer than two tests.
- E. When testing agency reports that subgrades, fills, or backfill have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove all excavated material, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTI

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
EXCAVATION

SECTION 32 3113
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Posts, rails, and frames.
- B. Wire fabric.
- C. Accessories.
- D. Protective Netting and related accessories.

1.3 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete anchorage for posts.

1.4 REFERENCE STANDARDS

- A. ASTM A121 - Standard Specification for Metallic-Coated Carbon Steel Barbed Wire; 2013.
- B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
- C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- D. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric; 2011a (Reapproved 2017).
- E. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2017a.
- F. ASTM F567 - Standard Practice for Installation of Chain-Link Fence; 2014a.
- G. ASTM F668 - Standard Specification for Polyvinyl Chloride (PVC) and Other Organic Polymer-Coated Steel Chain-Link Fence Fabric; 2017.
- H. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures; 2016.
- I. CLFMI CLF-SFR0111 - Security Fencing Recommendations; 2014.
- J. FS RR-F-191/1D - Fencing, Wire and Post Metal (Chain-Link Fence Fabric); 1990.
- K. CLFMI CLF 2445 - Product Manual - Drawings; 2012.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.
- C. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components. See CLFMI CLF-SFR0111 for planning and design recommendations.
- D. Samples: Submit two samples of fence fabric, 12 inch (- mm) by 12 inch (- mm) in size illustrating construction and colored finish.
- E. Manufacturer's Installation Instructions: Indicate installation requirements
- F. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines _____.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

PART 2 PRODUCTS

2.1 MANUFACTURERS

2.2 COMPONENTS

- A. Line Posts: 1.9 inch (48 mm) diameter.
- B. Corner and Terminal Posts: 2.38 inch (60 mm) diameter.
- C. Fabric: 2 inch (51 mm) diamond mesh interwoven wire, 6 gauge, 0.1920 inch (4.9 mm) thick, top selvage knuckle end closed, bottom selvage twisted tight.
- D. Tension Wire: 6 gauge, 0.1920 inch (4.9 mm) thick steel, single strand.
- E. Tie Wire: Aluminum alloy steel wire.

2.3 MATERIALS

- A. Posts, Rails, and Frames: _____:
- B. Line Posts: Type I round in accordance with FS RR-F-191/1D.
- C. Terminal, Corner, Rail, Brace, and Gate Posts: Type I round in accordance with FS RR-F-191/1D.
- D. Wire Fabric: _____:
- E. Wire Fabric: 6ga. bonded black vinyl coated, ASTM668, Type 2B, 7 mil thermally fused PVC over galvanized steel chain link fabric.
- F. Type specified in Section 03 3000.
- G. Concrete: Ready-mixed, complying with ASTM C94/C94M; normal Portland cement; 4000 psi (- MPa) strength at 28 days, 3 inch (75 mm) slump.

2.4 COMPONENTS

- A. Fabric: 1 inch (25 mm) diamond mesh interwoven wire, 6 gage, 0.1620 inch (4.12 mm) thick, top selvage knuckle end closed, bottom selvage twisted tight. Coated with 7 mil PVC.

2.5 ACCESSORIES

- A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.
- B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel.
- C. Extension Arms: Cast steel galvanized, to accommodate 3 strands of barbed wire, single arm, vertical.
- D. Protective netting systems.
 - 1. Cable: ¼" Galvanized 1 x 7 steel strand cable secured to the poles utilizing galvanized steel oval eye bolts and strand vises at the top and 4' from the bottom on each pole. Vertical face cables will be secured to each pole utilizing strand vises and turnbuckles.
 - a. # 36 , 4" Black, weather treated, rope bordered, on the square protective netting will be secured to the cables utilizing spring loaded snaps at top and weather treated twine with tie wraps along the sides and bottom cable.
 - b. Provide netting above the wire mesh fencing as indicated on drawings.
- E. Manufacturer: Midwest Netting Solutions, LLC; 800.733.0813.

2.6 FINISHES

- A. Components and Fabric: 5 ga. Bonded Vinyl coated, over coating of 1.8 oz/sq ft (550 g/sq m) galvanizing, on 6 ga. core.
- B. Hardware: Hot-dip galvanized to weight required by ASTM A153/A153M.

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CHAIN LINK FENCES AND GATES

- C. Accessories: Same finish as framing.
- D. Color(s): Black.
- E. Prime and paint all existing fence components (eggshell) black.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Scape, wire brush and sand all existing fence posts and components free of all rust , oils, laitance, etc; to provide a surface acceptable to the paint manufacturers requirements, to receive new prime and paint coatings.
- B. Install framework, fabric, accessories and gates in accordance with ASTM F567.
- C. Place fabric on inside of posts and rails.
- D. Set intermediate posts plumb, in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.
- E. Line Post Footing Depth Below Finish Grade: ASTM F567.
- F. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F567.
- G. Brace each gate and corner post to adjacent line post with horizontal center brace rail _____. Install brace rail one bay from end and gate posts.
- H. Provide top rail through line post tops and splice with 6 inch (150 mm) long rail sleeves.
- I. Install center brace rail on corner gate leaves.
- J. Do not stretch fabric until concrete foundation has cured 28 days.
- K. Stretch fabric between terminal posts or at intervals of 100 feet (30 m) maximum, whichever is less.
- L. Position bottom of fabric 2 inches (50 mm) above finished grade.
- M. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches (380 mm) on centers.
- N. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
- O. Install bottom tension wire stretched taut between terminal posts.
- P. Install support arms sloped inward and attach barbed wire; tension and secure.
- Q. Do not attach the hinged side of gate to building wall; provide gate posts.

3.2 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch (6 mm).
- B. Maximum Offset From True Position: 1 inch (25 mm).
- C. Do not infringe on adjacent property lines.

END OF SECTION

PORT CHESTER-RYE UFSD
KING STREET ELEMENTARY SCHOOL
BOILER REPLACEMENT
CHAIN LINK FENCES AND GATES

APPENDIX

- LIMITED ASBESTOS INSPECTION REPORT (ROOF SURVEY)
- LIMITED ASBESTOS INSPECTION REPORT (BOILER ROOM)
- 155.5 UNIFORM SAFETY STANDARDS



TOTAL QUALITY ENVIRONMENTAL, INC.

Limited Asbestos Inspection Report



Port Chester – Rye Union
Free School District
697 King Street
Port Chester NY 10573

Prepared for:

King Street Elementary School
697 King Street
Roof
Port Chester NY 10573

Prepared by:

Total Quality Environmental Inc.
116 Bay 19th Street
Brooklyn NY 11214
T: (718) 873-1411

Total Quality Environmental Inc. project #234.03.02

TABLE OF CONTENTS

1. Introduction
2. Inspection Results
3. Sampling Methodology
4. Limitations
5. Conclusions

Appendix A – Laboratory Reports & Chain of Custody Forms

Appendix B – Company & Personnel Licenses

Appendix C – Laboratory Accreditations

1. Introduction

At the request of Port Chester-Rye Union Free School District, Total Quality Environmental Inc. performed a survey for asbestos-containing materials (ACM) within the roof of King Street Elementary School located at 697 King Street, Port Chester NY 10573.

The inspection was conducted to confirm/dismiss the presence, locations and quantities of any asbestos-containing materials (ACM) in regard to planned boiler replacement project.

The survey was performed on March 29, 2022, by Alexander Rukasov, a NYS Department of Labor licensed Asbestos Inspector (NYS DOL License #09-14011).

Our work included the visual assessment of building materials to determine if they were suspect asbestos-containing material (see Section 3 for sampling methodology), sampling, condition assessment of the materials sampled (in case they were determined to be ACM based on the laboratory analysis results), quantification, and location of suspect ACM.

Bulk samples were submitted to and analyzed by ALLAB, Inc. located at 1544 East 13th Street, Unit CA, Brooklyn, NY 11230. ALLAB Inc. is accredited by the New York State Department of Health (ELAP No.12118).

2. Inspection Results

The intent of this survey was to locate and identify asbestos containing materials located throughout the roof for the upcoming roof construction work.

The following table includes full list of the material sampled during our March 29, 2022, visit:

**Asbestos Bulk Sample Summary Table
697 King Street, Port Chester, NY 10573**

Sample #	Type of Material	Sample Location	Results % Asbestos
01-01	Roof over the boiler room, top layer	Membrane	NAD
01-02	Roof over the boiler room, top layer	Membrane	NAD
02-03	Roof, bottom layer	Membrane	NAD
02-04	Roof, bottom layer	Membrane	NAD

NAD: NO ASBESTOS DETECTED

NA/PS: NOT ANALYZED POSITIVE STOP
BOLD: ASBESTOS-CONTAINING MATERIAL

3. Sampling Methodology

All bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining as described by the Interim Method of the Determination of Asbestos in Bulk Insulation, Federal Register/Volume 47, No. 103/May 27, 1982. It should be noted that some ACM may not be accurately identified and/or quantified by PLM. As an example, the original fabrication of non-friable organically bound (NOB) materials, such as vinyl floor tile materials, routinely involved milling of asbestos fibers to extremely small sizes. As a result, these fibers may go undetected under the standard PLM method. Under these circumstances, ALLAB conduct additional bulk sample analysis via Transmission Electron Microscopy (TEM), which is required under applicable State of New York regulations for a more definitive analysis of NOB materials whenever PLM results are inconclusive.

4. Limitations

This survey was planned and implemented on the basis of a mutually agreed scope of work. The survey was conducted in conformance with generally accepted current regulatory guidelines for identifying and evaluating asbestos in construction materials. Total Quality Environmental Inc. uses only qualified professionals to perform building surveys; reasonable effort was made to survey accessible suspect materials.

5. Conclusions

Total Quality Environmental Inc. has performed an inspection for the presence or absence of asbestos-containing materials (ACM) within roof at 697 King Street, Port Chester NY 10573. A total of four (4) bulk samples were collected from suspect ACM that may be disturbed during the future boiler replacement project. Based on the laboratory analysis none of the collected building materials are considered asbestos-containing material (ACM).

The laboratory reports are provided in the attachments which include the samples collected, locations and analytical results.

If additional suspect materials are discovered during future demolition activities, Total Quality Environmental Inc. recommends collecting/analyzing samples of the materials for asbestos content prior to further disturbance.

Acknowledgement:

Total Quality Environmental Inc. appreciates the opportunity to have been of assistance to you on this project. If you have any questions concerning this report, please contact me at (718) 404-6704.

Sincerely,

Alexander Rukasov

Alexander Rukasov
Senior Project Manager
NYS DOL Asbestos Inspector

**APPENDIX A:
LABORATORY REPORTS & CHAIN OF CUSTODIES FORMS**

220329-12

Page: 1 of 1

Total Quality Environmental Inc
Environmental company

116 Bay 19th Street

Brooklyn, NY 11214

T: 718.873.1411 | F: 347.729.0985

E: qualityenvironmental@icloud.com

CLIENT NAME:

PROPERTY ADDRESS:

SURVEY LOCATION:

PROJECT #:

Port Chester - Rye Union Free School District

697 King Street, Port Chester NY 10573

King Street Elementary School, Roof

234.03.02

- ☒ PLM-EPA 600/M4/82/020
☒ PLM NOB-NYS 198.1/198.6
☒ TEM NOB - NYS 198.4

BULK SAMPLE - CHAIN-OF-CUSTODY FORM**COMMENTS:**Turnaround Time: RUSH 24 HR 48 HR

QTY	Condition	Sample #		Location	Material Description	Results (lab use only)			
						PLM Friable	PLM NOB	TEM NOB	AAS
	Fair.	01	01	Roof over the Boiler Room	Membrane.				
	↓	↓	02	Top Layer	↓				
	↓	02	03	Bottom Layer	↓				
	↓	↓	04		↓				
			05						
			06						
			07						
			08						
			09						
			10						
			11						
			12						
			13						
			14						
			15						

Sampled by: A. Reheiser
Signature: A. Reheiser

Date: 03/29/22
Time: 8:00

Date: 03/29/22
Time:

Relinquished by: A. Reheiser
Signature: A. Reheiser

Received by: NR
Signature: NR

Analyzed by: ABamples
Signature: AB

Date: MAR 29 2022
Time: 15:00
BY:

Date: 3/30/22
Time: (PLM-TEM)



BULK SAMPLE ANALYSIS REPORT
Laboratory Report

1544 East 13th Street
Brooklyn, NY 11230
Phone: (718) 864-3666

Client Name:	Total Quality Environmetal, Inc.	Report ID: 220329-12
Building Address:	697 King St, Port Chester, NY	Report Date: 3/30/2022
Client Project:	234.03.02	NYS-DOH ELAP # 12118

Client ID	LAB ID#	Layer	Sample Description	Sample Location:	HA No.	Analytical Method	Color	PLM Friable Asbestos Percentage and Type	Other Fiber Material Percentage and Type	Non-Fibros Material %	PLM NOB Asbestos Percentage and Type	GRAVIMETRIC			Vermiculite	TEM RESULT Item 198.4
												Organic, %	Non-organic, %	CACO3 %		
1	220329-12-1	1	Membrane	Roof over the Boiler Room	1	198.6	Black				Inconclusive NAD	61	35	3.9	ND	NAD
2	220329-12-2	1	Membrane	Roof over Top. Layer	1	198.6	Black				Inconclusive NAD	67	28	4.7	ND	NAD
3	220329-12-3	1	Membrane	Roof over Bottom Layer	2	198.1	Brown	NAD	100% Cellulose						ND	
4	220329-12-4	1	Membrane	Roof over Bottom Layer	2	198.1	Brown	NAD	100% Cellulose						ND	

Date Collected:3/29/2022

Date Received: 3/29/2022

Date of Analyses: 3/30/2022

Lab Director

A. Barengolts

Aleksandr Barengolts

PLM - Polarized-Light Microscopy. NOB - Non-Friable Organically Bound Materials. TEM - Transmission Electron Microscopy.

198.1 - Method Item 198.1 of ELAP Certification Manual. 198.6 - Method Item 198.6 of ELAP Certification Manual. 198.4 - Method Item 198.4 of ELAP Certification Manual.

EPA 600 - Method EPA 600/M4/82/020 NJ EPA - Method EPA 600/R-93-116

ND - Not Detected NAD - No asbestos detected Trace - Inconclusive. Asbestos detected at 1% or less.

Samples with inconclusive results must not be interpreted as being non-asbestos.

Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Results NAD or TRACE by PLM are inconclusive.

The results relate only to the items tested. Samples will be stored for sixty (60) days.

The report shall not be reproduced without the written approval of the laboratory.

The currently approved methods for the analysis of SM-V include NYS DOH Item 198.8 and RJ Lee Groups Method 055.

**APPENDIX B:
COMPANY & PERSONNEL LICENSES**

New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Total Quality Environmental Inc.

116 Bay 19th Street

Brooklyn, NY 11214

FILE NUMBER: 17-105220

LICENSE NUMBER: 105220

LICENSE CLASS: RESTRICTED

DATE OF ISSUE: 08/11/2021

EXPIRATION DATE: 09/30/2022

Duly Authorized Representative – Mariya Kotys:

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

TOTAL QUALITY ENVIRONMENTAL INC.

STATE OF NEW YORK
DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

Total Quality Environmental Inc.
Employee Alexander Rukasov

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE




ALEXANDER RUKASOV
CLASS(EXPIRES)
C ATEC(10/22) D INSP(10/22)
H PM (10/22) I PD (10/22)

CERT# 09-14011
DMV# 656029863

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 006066976 94



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

EYES BLU
HAIR BLN
HGT 5' 11"

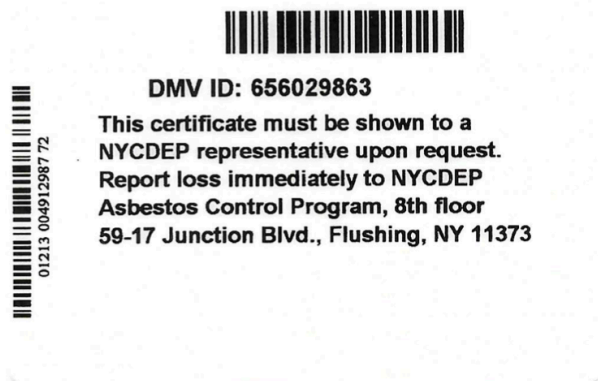
**TOTAL QUALITY ENVIRONMENTAL INC.
NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ASBESTOS INVESTIGATOR LICENSE**

**Total Quality Environmental Inc. Employee
Alexander Rukasov**

Front of License



Back of License



**APPENDIX C:
LABORATORY ACCREDITATIONS**

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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

MR. ALEKSANDR BARENGOLTS
ALLAB INC
1544 EAST 13 STREET UNIT CA, BASEMENT
BROOKLYN, NY 11230-7281

NY Lab Id No: 12118

*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



NEW YORK
STATE OF
OPPORTUNITY

Department
of Health

Serial No.: 63391

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.



TOTAL QUALITY ENVIRONMENTAL, INC.

Limited Asbestos Inspection Report



Port Chester – Rye Union
Free School District
697 King Street
Port Chester NY 10573

Prepared for:

King Street Elementary School
697 King Street
Boiler room
Port Chester NY 10573

Prepared by:

Total Quality Environmental Inc.
116 Bay 19th Street
Brooklyn NY 11214
T: (718) 873-1411

Total Quality Environmental Inc. project #234.03.02

TABLE OF CONTENTS

1. Introduction
2. Inspection Results
3. Sampling Methodology
4. Limitations
5. Conclusions

Appendix A – Sample Location Drawings

Appendix B – Laboratory Reports & Chain of Custody Forms

Appendix C – Company & Personnel Licenses

Appendix D – Laboratory Accreditations

1. Introduction

At the request of Port Chester-Rye Union Free School District, Total Quality Environmental Inc. performed a survey for asbestos-containing materials (ACM) within the boiler room of King Street Elementary School located at 697 King Street, Port Chester NY 10573.

The inspection was conducted to confirm/dismiss the presence, locations and quantities of any asbestos-containing materials (ACM) in regard to planned boiler replacement project.

The survey was performed on March 08, 2022, by Alexander Rukasov, a NYS Department of Labor licensed Asbestos Inspector (NYS DOL License #09-14011).

Our work included the visual assessment of building materials to determine if they were suspect asbestos-containing material (see Section 3 for sampling methodology), sampling, condition assessment of the materials sampled (in case they were determined to be ACM based on the laboratory analysis results), quantification, and location of suspect ACM.

Bulk samples were submitted to and analyzed by ALLAB, Inc. located at 1544 East 13th Street, Unit CA, Brooklyn, NY 11230. ALLAB Inc. is accredited by the New York State Department of Health (ELAP No.12118).

2. Inspection Results

The intent of this survey was to locate and identify asbestos containing materials located throughout the boiler room for the upcoming boiler replacement project. The following table includes full list of the material sampled during our March 8, 2022, visit:

**Asbestos Bulk Sample Summary Table
697 King Street, Port Chester, NY 10573**

Sample #	Type of Material	Sample Location	Results % Asbestos
01-01	Chimney Mortar	Room 143 (boiler room)	NAD
01-02	Chimney Mortar	Room 143 (boiler room)	NAD
01-03	Chimney Mortar	Room 143 (boiler room)	NAD
02-04	Pipe insulation Cover	Room 143 (boiler room)	NAD
02-05	Pipe insulation Cover	Room 143 (boiler room)	NAD
02-06	Pipe insulation Cover	Room 143 (boiler room)	NAD

Report of Asbestos Survey Services

03-07	Duct insulation Wrap	Room 143 (boiler room)	NAD
03-08	Duct insulation Wrap	Room 143 (boiler room)	NAD
03-09	Duct insulation Wrap	Room 143 (boiler room)	NAD
04-10	Duct insulation	Room 143 (boiler room)	NAD
04-11	Duct insulation	Room 143 (boiler room)	NAD
04-12	Duct insulation	Room 143 (boiler room)	NAD
05-13	CMU Mortar	Room 143 (boiler room)	NAD
05-14	CMU Mortar	Room 143 (boiler room)	NAD
05-15	CMU Mortar	Room 143 (boiler room)	NAD
06-16	Cork Insulation	Room 143, ceiling	NAD
06-17	Cork Insulation	Room 143, ceiling	NAD
06-18	Cork Insulation	Room 143, ceiling	NAD

NAD: NO ASBESTOS DETECTED

NA/PS: NOT ANALYZED POSITIVE STOP

BOLD: ASBESTOS-CONTAINING MATERIAL

3. Sampling Methodology

Samples were collected in accordance with AHERA requirements detailed at 40CFR Part 763, Subpart E. All of the suspect materials identified were described and categorized into homogeneous areas (HAs). An HA consists of all identified material found in various locations in a building that are identical in color, appearance, pattern, texture, and date of installation. The asbestos inspection was conducted according to modified Asbestos Hazard Emergency Response Act (AHERA) guidelines using a minimum number of samples collected from each HA, which meets the sampling criteria found in 29 CFR 1926.1101. Samples of suspect miscellaneous materials were collected in a randomly distributed manner sufficient to determine whether the materials were asbestos containing. Samples were obtained with tools designed to penetrate a material without creating excessive dust. A utility knife and chisel were utilized in an effort to obtain a sample that was representative of all layers of the material. Total Quality Environmental Inc. sampling procedures incorporate the use of plastic zip-lock bags labeled in a unique numbering sequence to store the bulk samples. Information about bulk samples, including the sample number and material description, were noted on the chain-of-custody sheets as each sample was collected.

Bulk samples of suspect ACM were analyzed using polarized light microscopy (PLM) coupled with dispersion staining, as described in 40 CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAP). Asbestos-containing material (ACM) is defined by the Asbestos NESHAP, as any material containing more

than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. (Sec. 61.141).

A suspect material is immersed in a solution of known refractive index and subjected to illumination by polarized light. The color displays that result are compared to a standardized atlas whereby the specific variety of asbestos is determined. It should also be recognized that PLM is primarily a qualitative identification method whereby asbestos percentage, if any, is estimated. While EPA and New York State regulations governing ACM consider materials containing greater than 1-percent as asbestos, accurately quantifying asbestos content below 5-percent has been shown to be unreliable.

The New York State Department of Health has revised the PLM Stratified Point Counting Method. The new method, "Polarized Light Microscopy Methods for Identifying and Quantifying Asbestos in Bulk Samples" can be found as item 198.1 in the Environmental Laboratory Approval Program (ELAP) Certification manual. The method specifies a procedure of analysis for bulk samples that fall into the category of "Non-friable Organically Bound" (NOB) and for ceiling tile with cellulose. This category includes any sample in a flexible to rigid asphalt or vinyl matrix (floor tiles, mastic, roofing shingles, roofing felt, etc.) and ceiling tile with cellulose. Additional materials that may fall into this category are textured paints and stucco, pipe valve and joint packing, and a variety of other applications. These samples must be "ashed" in a muffle furnace at 480-degrees Celsius (to remove organic matrix), treated with acid (to remove any mineral carbonate), and filtered through a 0.4-micron filter before being analyzed by PLM. The sample must be weighted between each of these steps to track the percent loss of organic matrix.

ELAP has determined that analysis of NOB materials is not reliably performed by PLM. Therefore, if PLM yields results of 1-percent asbestos or less, the result must be confirmed by TEM. Bulk samples that undergo TEM analysis use the sample reduction methodology stated above for NOB analysis by PLM. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) NOB sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

All bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining as described by the Interim Method of the Determination of Asbestos in Bulk Insulation, Federal Register/Volume 47, No. 103/May 27, 1982. It should be noted

that some ACM may not be accurately identified and/or quantified by PLM. As an example, the original fabrication of non-friable organically bound (NOB) materials, such as vinyl floor tile materials, routinely involved milling of asbestos fibers to extremely small sizes. As a result, these fibers may go undetected under the standard PLM method. Under these circumstances, ALLAB laboratory conducted additional bulk sample analysis via Transmission Electron Microscopy (TEM), which is required under applicable State of New York regulations for a more definitive analysis of NOB materials whenever PLM results are inconclusive.

4. Limitations

This survey was planned and implemented on the basis of a mutually agreed scope of work. The survey was conducted in conformance with generally accepted current regulatory guidelines for identifying and evaluating asbestos in construction materials. Total Quality Environmental Inc. uses only qualified professionals to perform building surveys; reasonable effort was made to survey accessible suspect materials.

5. Conclusions

Total Quality Environmental Inc. has performed an inspection for the presence or absence of asbestos-containing materials (ACM) within boiler room at 697 King Street, Port Chester NY 10573. A total of eighteen (18) bulk samples were collected from suspect ACM that may be disturbed during the future boiler replacement project. Based on the laboratory analysis none of the collected building materials are considered asbestos-containing material (ACM).

The laboratory reports are provided in the attachments which include the samples collected, locations and analytical results.

Please note, there are approximately five (5) gaskets (1SF each) inaccessible, and burner liner pit inaccessible presumed positive for asbestos containing material. Port Chester-Rye UFSD should contact Total Quality Environmental to sample these materials prior to any disturbance, or they must be treated as asbestos containing materials (ACM).

If additional suspect materials are discovered during future demolition activities, Total Quality Environmental Inc. recommends collecting/analyzing samples of the materials for asbestos content prior to further disturbance.

Acknowledgement:

Total Quality Environmental Inc. appreciates the opportunity to have been of assistance to you on this project. If you have any questions concerning this report, please contact me at (718) 404-6704.

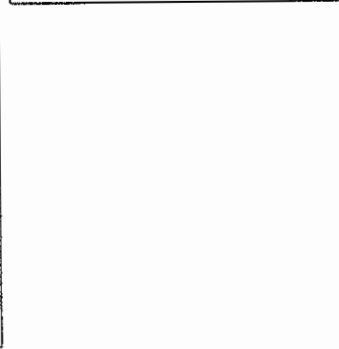
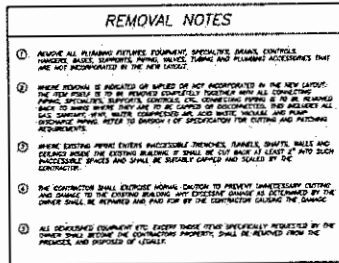
Sincerely,

Alexander Rukasov

Alexander Rukasov
Senior Project Manager
NYS DOL Asbestos Inspector

**APPENDIX A:
SAMPLE LOCATION DRAWINGS**

06



W
K

CMU Mortar - 600 SF
Cork Insulation Ceiling - 670 SF

**APPENDIX B:
LABORATORY REPORTS & CHAIN OF CUSTODIES FORMS**

220308-15

Page: 1 of 2

Total Quality Environmental Inc CLIENT NAME:

Environmental company

116 Bay 19th Street

Brooklyn, NY 11214

T: 718.873.1411 | F: 347.729.0985

E: qualityenvironmental@icloud.com

PROPERTY ADDRESS:

SURVEY LOCATION:

PROJECT #:

Port Chester -Rye Union Free School District

697 King Street, Port Chester NY 10573

King Street Elementary School, Boiler room

234.03.02

- ☒ PLM-EPA 600/M4/82/020
☒ PLM NOB-NYS 198.1/198.6
☒ TEM NOB - NYS 198.4

BULK SAMPLE - CHAIN-OF-CUSTODY FORM**COMMENTS:**

Turnaround Time: RUSH

24 HR

48 HR

QTY	Condition	Sample #		Location	Material Description	Results (lab use only)			
						PLM Friable	PLM NOB	TEM NOB	AAS
1000#	Pair	01	01	Room 143	Chimney mortar.				
			02						
			03						
90LF		02	04		pipe insulation cover				
			05						
			06						
2000#		03	07		Duct insulation wrap				
			08						
			09						
		04	10		Duct insulation				
			11						
			12						
6000#		05	13		CMU mortar				
			14						
			15						

Sampled by:

Signature:

Date:

Time:

Received by:

Signature:

Date:

Time:

Relinquished by:

Signature

Date:

Time:

Analyzed by:

Signature:

Date:

Time:

BY:

Date:

Time:

RECEIVED

MAR 08 2022

18:30

AB 3/9/22
 (PLM + TEM)

220308-15

Total Quality Environmental Inc
Environmental company
 116 Bay 19th Street
 Brooklyn, NY 11214
 T: 718.873.1411 | F: 347.729.0985
 E: qualityenvironmental@icloud.com

CLIENT NAME: Port Chester -Rye Union Free School District
 PROPERTY ADDRESS: 697 King Street, Port Chester NY 10573
 SURVEY LOCATION: King Street Elementary School, Boiler room
 PROJECT #: 234.03.02

- ☒ PLM-EPA 600/M4/82/020
☒ PLM NOB-NYS 198.1/198.6
☒ TEM NOB - NYS 198.4

BULK SAMPLE - CHAIN-OF-CUSTODY FORM

COMMENTS:

Turnaround Time: RUSH 24 HR 48 HR
 (all)

QTY	Condition	Sample #		Location	Material Description	Results (lab use only)			
						PLM Friable	PLM NOB	TEM NOB	AAS
67084	Fair.	06	16	Room 143, Ceiling	Cork insulation				
			17						
			18						
			19						
			20						
			21						
			22						
			23						
			24						
			25						
			26						
			27						
			28						
			29						
			30						

RECEIVED

Sampled by: A. Reelken
 Signature: *A. Reelken*
 Relinquished by: A. Reelken
 Signature: *A. Reelken*

Date: 08/08/22
 Time: 6:30
 Date: 03/09/22

Received by: *NE*
 Signature: *NE*

Analyzed by: AB 3/9/22
 Signature: *AB 3/9/22*
 Date: *03/09/22*
 Time: *18:30*
 BY: *PLM + TEAM*

Date: MAR 08 2022
 Time: 18:30



BULK SAMPLE ANALYSIS REPORT

Laboratory Report

1544 East 13th Street
Brooklyn, NY 11230
Phone: (718) 864-3666

Client Name: Total Quality Environmetal, Inc. Report ID: 220308-15
Building Address: 697 King St, Port Chester, NY Report Date: 3/9/2022
Client Project: 234.03.02 NYS-DOH ELAP # 12118

Client ID	LAB ID#	Layer	Sample Description	Sample Location:	HA No.	Analytical Method	Color	PLM Friable Asbestos Percentage and Type	Other Fiber Material Percentage and Type	Non-Fibros Material %	PLM NOB Asbestos Percentage and Type	GRAVIMETRIC			Vermiculite	TEM RESULT Item 198.4
												Organic, %	Non-organic, %	CACO3 %		
1	220308-15-1	1	Chimney Mortar	Room 143	1	198.1	Brown	NAD		100					ND	
2	220308-15-2	1	Chimney Mortar	Room 143	1	198.1	Brown	NAD		100					ND	
3	220308-15-3	1	Chimney Mortar	Room 143	1	198.1	Brown	NAD		100					ND	
4	220308-15-4	1	Pipe Insulation Cover	Room 143	2	198.6	Brown Silver				Inconclusive <input type="checkbox"/> NAD	55	26	18	ND	NAD
5	220308-15-5	1	Pipe Insulation Cover	Room 143	2	198.6	Brown Silver				Inconclusive <input type="checkbox"/> NAD	42	36	22	ND	NAD
6	220308-15-6	1	Pipe Insulation Cover	Room 143	2	198.6	Brown Silver				Inconclusive <input type="checkbox"/> NAD	58	31	11	ND	NAD
7	220308-15-7	1	Pipe Insulation Wrap	Room 143	3	198.1	Off White	NAD	99% Cellulose	1					ND	
8	220308-15-8	1	Pipe Insulation Wrap	Room 143	3	198.1	Off White	NAD	99% Cellulose	1					ND	
9	220308-15-9	1	Pipe Insulation Wrap	Room 143	3	198.1	Off White	NAD	99% Cellulose	1					ND	
10	220308-15-10	1	Duct Insulation	Room 143	4	198.1	Ligth Grey	NAD	20% Fiber Glass-15% Cellulose	65					ND	
11	220308-15-11	1	Duct Insulation	Room 143	4	198.1	Ligth Grey	NAD	10% Fiber Glass-25% Cellulose	65					ND	
12	220308-15-12	1	Duct Insulation	Room 143	4	198.1	Ligth Grey	NAD	15% Fiber Glass-25% Cellulose	60					ND	
13	220308-15-13	1	CMU Mortar	Room 143	5	198.1	Grey	NAD		100					ND	
14	220308-15-14	1	CMU Mortar	Room 143	5	198.1	Grey	NAD		100					ND	
15	220308-15-15	1	CMU Mortar	Room 143	5	198.1	Grey	NAD		100					ND	



BULK SAMPLE ANALYSIS REPORT

Laboratory Report

1544 East 13th Street
Brooklyn, NY 11230
Phone: (718) 864-3666

Client Name:	Total Quality Environmetal, Inc.	Report ID: 220308-15
Building Address:	697 King St, Port Chester, NY	Report Date: 3/9/2022
Client Project:	234.03.02	NYS-DOH ELAP # 12118

Client ID	LAB ID#	Layer	Sample Description	Sample Location:	HA No.	Analytical Method	Color	PLM Friable Asbestos Percentage and Type	Other Fiber Material Percentage and Type	Non-Fibros Material %	PLM NOB Asbestos Percentage and Type	GRAVIMETRIC			Vermiculite	TEM RESULT Item 198.4
												Organic, %	Non-organic, %	CACO3 %		
16	220308-15-16	1	Cork Insulation	Room 143, Ceiling	6	198.1	Brown	NAD		100					ND	
17	220308-15-17	1	Cork Insulation	Room 143, Ceiling	6	198.1	Brown	NAD		100					ND	
18	220308-15-18	1	Cork Insulation	Room 143, Ceiling	6	198.1	Brown	NAD		100					ND	

Date Collected:	3/8/2022	Date Received: 3/8/2022	Date of Analyses: 3/9/2022
-----------------	----------	-------------------------	----------------------------

Lab Director: Aleksandr Barengolts

PLM - Polarized-Light Microscopy. NOB - Non-Friable Organically Bound Materials. TEM - Transmission Electron Microscopy.

198.1 - Method Item 198.1 of ELAP Certification Manual. 198.6 - Method Item 198.6 of ELAP Certification Manual. 198.4 - Method Item 198.4 of ELAP Certification Manual.

EPA 600 - Method EPA 600/M4/82/020 NJ EPA - Method EPA 600/R-93-116

ND - Not Detected NAD - No asbestos detected Trace - Inconclusive. Asbestos detected at 1% or less.

Samples with inconclusive results must not be interpreted as being non-asbestos.

Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Results NAD or TRACE by PLM are inconclusive.

The results relate only to the items tested. Samples will be stored for sixty (60) days.

The report shall not be reproduced without the written approval of the laboratory.

The currently approved methods for the analysis of SM-V include NYS DOH Item 198.8 and RJ Lee Groups Method 055.

**APPENDIX C:
COMPANY & PERSONNEL LICENSES**

New York State – Department of Labor

Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Total Quality Environmental Inc.

116 Bay 19th Street

Brooklyn, NY 11214

FILE NUMBER: 17-105220

LICENSE NUMBER: 105220

LICENSE CLASS: RESTRICTED

DATE OF ISSUE: 08/11/2021

EXPIRATION DATE: 09/30/2022

Duly Authorized Representative – Mariya Kotys:

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

TOTAL QUALITY ENVIRONMENTAL INC.

STATE OF NEW YORK
DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

Total Quality Environmental Inc.
Employee Alexander Rukasov

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

 **ALEXANDER RUKASOV**
CLASS(EXPIRES)
C ATEC(10/22) D INSP(10/22)
H PM (10/22) I PD (10/22)

CERT# 09-14011
DMV# 656029863

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 006066976 94

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

**APPENDIX D:
LABORATORY ACCREDITATIONS**

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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

MR. ALEKSANDR BARENGOLTS
ALLAB INC
1544 EAST 13 STREET UNIT CA, BASEMENT
BROOKLYN, NY 11230-7281

NY Lab Id No: 12118

*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



NEW YORK
STATE OF
OPPORTUNITY

Department
of Health

Serial No.: 63391

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.

Part 155 Regulations

Section 155.5 Uniform Safety Standards for School Construction and Maintenance

Projects [Disclaimer](#)

(a) Monitoring of construction and maintenance activities.

The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy and shall be monitored during construction or maintenance activities for safety violations by school district personnel. It is the responsibility of the board of education or board of cooperative educational services to assure that these standards are continuously maintained when the building or any portion thereof is occupied.

(b) Investigation and disposition of complaints relating to health and safety received as a result of construction and maintenance activities.

Boards of education and boards of cooperative educational services shall follow procedures established under section 155.4(d)(7) of this Part. (c) Pre-construction testing and planning for construction projects.

(1) Boards of education and boards of cooperative educational services shall assure that proper planning is made for safety of building occupants during construction. For all construction projects for which bids are issued on or after September 30, 1999, such boards shall assure that safety is addressed in the bid specifications and contract documents before contract documents are advertised for bid. All school areas to be disturbed during renovation or demolition shall be tested for lead and asbestos. Appropriate procedures to protect the health of building occupants shall be included in the final construction documents for bidding.

(2) Boards of education and boards of cooperative educational services shall establish procedures for involvement of the health and safety committee to monitor safety during school construction projects. The health and safety committees in school districts other than in cities with one million inhabitants or more shall be expanded during construction projects to include the project architect, construction manager, and the contractors. Such committee shall meet periodically to review issues and address complaints related to health and safety resulting from the construction project. In the case of a city school district in a city of one million inhabitants or more, the board of education shall submit procedures for protecting health and safety during construction to the commissioner for approval. Such procedures shall outline methods for compliance with this section.

(3) The district emergency management plan shall be updated to reflect any changes necessary to accommodate the construction process, including an updated emergency exit plan indicating temporary exits required due to construction. Provisions shall be made for the emergency evacuation and relocation or release of students and staff in the event of a construction incident.

(4) Fire drills shall be held to familiarize students and staff with temporary exits and revised emergency procedures whenever such temporary exits and revised emergency procedures are required.

(d) Pre-construction notification of construction projects.

The board of education or board of cooperative educational services shall establish procedures for notification of parents, staff and the community in advance of a construction project of \$10,000 or more to be conducted in a school building while the building is occupied. Such procedures shall provide notice at least two months prior to the date on which construction is scheduled to begin, provided that in the case of emergency construction projects, such notice shall be provided as far in advance of the start of construction as is practicable. Such notice shall include information on the district's obligations under this section to provide a safe school environment during construction projects. Such notice requirement may be met by publication in district newsletters, direct mailings, or holding a public hearing on the project to inform parents, students, school personnel and community members.

(e) General safety and security standards for construction projects.

(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.

(f) Separation of construction areas from occupied spaces.

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.

(g) Maintaining exiting and ventilation during school construction projects.

The following information shall be included in all plans and specifications for school building projects:

(1) 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.

A plan detailing how adequate ventilation will be maintained during construction. The plan shall indicate ductwork which 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 construction will be maintained during the project.

(h) Fire and hazard prevention.

Areas of buildings under construction that are to remain occupied shall maintain a certificate of occupancy. In addition, the following shall be strictly enforced:

(1) No smoking is allowed on public school property, including construction areas.

(2) During construction daily inspections of district occupied areas shall be conducted by school district personnel to assure that construction materials, equipment or debris not block fire exits or emergency egress windows.

(3) Proper operation of fire extinguishers, fire alarm, and smoke/fire detection systems shall be maintained throughout the project.

(i) Noise abatement during construction and maintenance activities.

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. 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 the noise.

Complaints regarding excessive noise shall be addressed through the health and safety committee.

The district should anticipate those times when construction noise is unacceptable and incorporate "no work" periods into the bid specifications.

(j) Control of chemical fumes, gases, and other contaminants during construction and maintenance projects.

The bid specifications and construction contracts for each construction project shall indicate how and where welding, gasoline engine, roofing, paving, painting or other fumes will be exhausted. Care must be taken to assure fresh air intakes do not draw in such fumes.

(1) The bid specifications shall require schedules of work on construction and maintenance projects which include time for off-gassing of volatile organic compounds introduced during construction before occupancy is allowed. Specific attention is warranted for activities including glues, 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 a space can be assured. 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. If the work will generate toxic gases that cannot be contained in an isolated area, the work must be done when school classes and programs are not in session. The building must be properly ventilated and the material must be given proper time to cure or off-gas before re-occupancy.

(2) Manufacturer's material safety data sheets (MSD) shall be maintained at the site for all products used in the project. MSDS must be provided to anyone who requests them. MSDS indicate chemicals used in the product, product toxicity, typical side effects of exposure to the product and safe procedures for use of the product.

(k) Asbestos abatement protocols.

All asbestos abatement projects shall comply with all applicable Federal and State laws including but not limited to the New York State Department of Labor industrial code rule 56 (12 NYCRR 56), and the Federal Asbestos Hazard Emergency Response Act (AHERA), 40 CFR part 763 (Code of Federal

Regulations, 1998 Edition, Superintendent of Public Documents, U.S. Government Printing Office, Washington, DC 20402; 1998; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234). Large and small asbestos projects as defined by 12 NYCRR 56 shall not be performed while the building is occupied. Minor asbestos projects defined by 12 NYCRR 56 as an asbestos project involving the removal, disturbance, repair, encapsulation, enclosure or handling of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material may be performed in unoccupied areas of an occupied building in accordance with the above referenced regulations.

(l) Lead paint.

Any construction or maintenance operations which will disturb lead based paint will require abatement of those areas pursuant to protocols detailed in the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" (June 1995; U.S. Department of Housing and Urban Development, Washington, D.C. 20410; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234). All areas scheduled for construction as well as areas of flaking and peeling paint shall be tested for the presence of lead and abated or encapsulated in accordance with the above noted guidelines.

(m) Radon.

Districts shall take responsibility to be aware of the geological potential for high levels of radon and to test and mitigate as appropriate. This information is available from the New York State Department of Health Radon Measurement Database.

(n) Post construction inspection.

The school district or board of cooperative educational services shall provide the opportunity for a walk-through inspection by the health and safety committee members to confirm that the area is ready to be reopened for use.