

Project Manual for SECEP Renovation at JFK Middle School

Suffolk Public Schools

Date: April 30, 2021



**Suffolk Public Schools IFB Number: 1762
RRMM Project Number: 19256-03**

VOLUME 1 OF 1

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 000002 – PROJECT DIRECTORY

Owner

Suffolk Public Schools
Facilities and Planning
1507 Freeney Avenue
Suffolk, VA 23434
Contact : Terry Napier, Director of Facilities and Planning
Phone : (757) 934-6206
Email : freddienapier@spsk12.net

Architect

RRMM Architects
1317 Executive Boulevard, Suite 200
Chesapeake, VA 23220
Project Manager : Doug Cofer, Architect
Principle-in-Charge : Jeffrey A. Harris, Architect
Phone : (757) 622-2828
Email : jharris@rrmm.com



PME Engineer

Thompson Consulting Engineers, Inc.
22 Enterprise Parkway, Suite 200
Hampton, VA 23666
Project Manager : Jason Miner, Senior Associate
Phone : (757) 599-4415
Email : jaminer@mjtengineers.com



END OF SECTION 000002

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 000003 - TABLE OF CONTENTS

VOLUME 1 of 1

DIVISION 0 – BIDDING AND CONTRACTURAL DOCUMENTS

000001	COVER PAGE
000002	PROJECT DIRECTORY
000005	TABLE OF CONTENTS
000015	LIST OF DRAWING SHEETS
000100	INVITATION FOR BID
000213	INSTRUCTIONS TO BIDDERS
000300	BID FORM
AIA-A310	AIA DOCUMENT A310-2010 : BID BOND
000500	SAMPLE AGREEMENT
AIA-A201	AIA DOCUMENT A201-2007 : GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION
000800	SUPPLEMENTAL CONDITIONS
AIA-A305	AIA DOCUMENT A305-1986 : CONTRACTOR'S QUALIFICATION STATEMENT
000860	PRE-BID QUESTION FORM
003126	EXISTING HAZARDOUS MATERIAL INFORMATION

ATTACHMENTS

ATTACHMENT #1 AHERA 3-YEAR REINSPECTION 2019

DIVISION 1 - GENERAL REQUIREMENTS

011100	SUMMARY
012100	ALLOWANCES
012500	SUBSTITUTION PROCEDURES
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
013200	CONSTRUCTION PROGRESS DOCUMENTATION
013300	SUBMITTAL PROCEDURES
015000	TEMPORARY FACILITIES AND CONTROLS
016000	PRODUCT REQUIREMENTS
017300	EXECUTION
017419	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
017700	CLOSEOUT PROCEDURES
017823	OPERATION AND MAINTENANCE DATA
017839	PROJECT RECORD DOCUMENTS

DIVISION 2 – EXISTING CONDITIONS

024119 SELECTIVE DEMOLITION

DIVISION 3 - CONCRETE

DIVISION NOT USED

DIVISION 4 - MASONRY

DIVISION NOT USED

DIVISION 5 - METALS

DIVISION NOT USED

DIVISION 6 - WOOD AND PLASTIC

061000 ROUGH CARPENTRY
064116 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

078413 PENETRATION FIRESTOPPING
078443 JOINT FIRESTOPPING
079200 JOINT SEALANTS

DIVISION 8 - DOORS AND WINDOWS

081213 HOLLOW METAL FRAMES
081416 FLUSH WOOD DOORS
087100 DOOR HARDWARE

DIVISION 9 - FINISHES

092216 NON-STRUCTURAL METAL FRAMING
092900 GYPSUM BOARD
095113 ACOUSTICAL PANEL CEILINGS
096513 RESILIENT BASE AND ACCESSORIES
096519 RESILIENT TILE FLOORING
099123 INTERIOR PAINTING

DIVISION 10 - SPECIALTIES

101100 VISUAL DISPLAY UNITS

DIVISION 11 - EQUIPMENT

DIVISION NOT USED

DIVISION 12 - FURNISHINGS

123623 PLASTIC LAMINATE CLAD COUNTERTOPS

DIVISION 13 - SPECIAL CONSTRUCTION

DIVISION NOT USED

DIVISION 14 - CONVEYING SYSTEMS

DIVISION NOT USED

DIVISION 21 – FIRE PROTECTION

DIVISION NOT USED

DIVISION 22 – PLUMBING

220500 PLUMBING

DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING

DIVISION NOT USED

DIVISION 26 – ELECTRICAL

260100 ELECTRICAL GENERAL PROVISIONS
260500 MATERIALS AND METHODS
260519 CONDUCTORS
260525 SURFACE METAL RACEWAYS
260526 GROUNDING
260529 SUPPORTING DEVICES
260533 RACEWAYS
260534 ELECTRICAL BOXES AND FITTINGS
260923 LIGHTING CONTROL DEVICES
265100 INTERIOR BUILDING LIGHTING

DIVISION 27 – COMMUNICATION EQUIPMENT

DIVISION NOT USED

DIVISION 28 – SECURITY SYSTEMS

DIVISION NOT USED

DIVISION 31 – EARTHWORK

DIVISION NOT USED

DIVISION 32 – EXTERIOR IMPROVEMENTS

DIVISION NOT USED

DIVISION 33 – UTILITIES

DIVISION NOT USED

END OF SECTION 000003

SECTION 000015 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Index of the separately bound drawing set titled SECEP Renovation at JFK Middle School, dated April 30, 2021, as modified by subsequent Addenda and Contract modifications.

VOLUME 1

G-001 TITLE SHEET, INDEX, AND KEY PLAN

LIFE SAFETY

LS101 BUILDING CODE DESIGN SUPPORTING DATA AND LIFE SAFETY PLANS

ARCHITECTURAL

AD101 FIRST FLOOR DEMOLITION PLAN – AREA A

AD102 FIRST FLOOR DEMOLITION PLAN – AREA B

A-001 ARCHITECTURAL GENERAL INFORMATION

A-002 PARTITION TYPES, PARTITION TERMINATION DETAILS, CONTROL JOINT DETAILS, AND NOTES

A-101 FIRST FLOOR NEW WORK PLAN – AREA A

A-102 FIRST FLOOR NEW WORK PLAN – AREA B AND DETAILS

A-103 FIRST FLOOR NEW WORK RCP – AREAS A AND B AND CASEWORK ELEVATIONS AND DETAILS

A-601 DOOR SCHEDULE AND LEGEND, FINISH SCHEDULE AND LEGEND, AND FLOOR PATTERN PLANS

PLUMBING/MECHANICAL

PM-101 LEGEND, NOTES, ABBREVIATIONS & FLOOR PLANS

ELECTRICAL

E-001 ELECTRICAL LEGEND, ABBREVIATIONS, & NOTES

E-002 FIRESTOP DETAILS

ED101 DEMOLITION FLOOR PLAN – AREA A

ED102 DEMOLITION FLOOR PLAN – AREA B

E-101 NEW WORK FLOOR PLAN – AREA A

E-102 NEW WORK FLOOR PLAN – AREA B

END OF SECTION 000015

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 000100 - INVITATION FOR BID

INVITATION FOR BID #1762

Date: April 30, 2021

Owner: Suffolk City School Board
User: Suffolk Public Schools
Architect: RRMM Architects
Project: SECEP Renovation at JFK Middle School
Suffolk Public Schools Bid # 1762

Suffolk Public Schools is soliciting lump sum, sealed bids for the construction of the SECEP Renovation at JFK Middle School. The project is located at 2327 E Washington St, Suffolk, VA 23434.

All bids must be submitted in a sealed envelope or package clearly marked **“BID 1762 - SECEP Renovation at JFK Middle School,” including the due date and time.** All bids shall be received in the Purchasing Office, on or before., **12:00 PM Monday, May 17th** and delivered to:

Anthony W. Hinds CPPB
Department of Purchasing
Suffolk Public Schools
100 North Main Street (entrance @ rear of building)
Suffolk, Virginia 23434

Bids shall be publicly opened and read aloud at the above stated date, time and location. Any bid received after the time designated above will be returned unopened.

Any award resulting from this solicitation will be issued to the successful offeror in writing and will be posted on the Suffolk Public School Bid Board located at 100 North Main Street, Suffolk, Virginia 23434 and the Suffolk Public Schools website.

A non-mandatory Pre-Bid Conference will be held on May 6, 2021 at 9:00 a.m. at JFK Middle School located at 2325 E Washington St, Suffolk, VA 23434. Bidders are encouraged to attend.

A bid bond is required. Procedures for submitting a bid, claiming an error, withdrawal of bids, and other pertinent information are contained in the contract documents. The procedure for withdrawal of bids shall be in accordance with the Instructions to Bidders and Section 2.2-4330, Code of Virginia. Bidders shall be required to comply with the provisions of Section 2.2-4311, Code of Virginia, in regard to nondiscrimination in employment. The owner reserves the right to reject any or all bids.

Contract documents, including any subsequent addenda, will be posted on eVa. It is the bidders' responsibility to check eVa's website to obtain any addenda. eVA may assign another bid number, but for the sake of submission, please submit using this bid number.

**SECEP RENOVATION AT JFK MIDDLE SCHOOL
SUFFOLK PUBLIC SCHOOLS**

RRMM PROJECT NUMBER: 19256-03

Any questions regarding this invitation to bid should be directed in writing to Anthony W. Hinds, Purchasing Manager at the above address or emailed to anthonyhinds@spsk12.net and Doug Cofer at dcofer@rrmm.com

END OF DOCUMENT 000100

DOCUMENT 000213 - INSTRUCTIONS TO BIDDERS

1. DRAWINGS AND SPECIFICATIONS:

Contract Documents will be posted on eVa. In the event a Contract is not awarded, all plans, drawings and specifications will be recalled.

2. BIDS:

Before submitting a bid, each bidder shall carefully examine the drawings, specifications and other Contract Documents; read and understand the bidding documents and his bid; shall visit the site of the work; shall fully inform himself as to all existing conditions and limitations; and shall include in the bid the cost of all labor, supervision, items, materials, systems, and equipment described and included in the Contract Documents without exceptions.

3. CONTRACT AND BONDS

Each bid shall be accompanied by a bid security in the form of a Bid Bond, a cashier's check, or a certified check in the amount of five percent (5%) of the total bid, made payable to the Suffolk City School Board. This Bid Bond, cashier's check, or certified check pledges that the bidder will enter into a Contract with the Owner on the terms stated in the Bid and will furnish bonds covering faithful performance of the Contract and payment of all obligations arising there under. Should the bidder refuse to enter into such a Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

Surety Bonds shall be written on AIA Document A310, Bid Bond, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

All bonds shall be written by sureties or insurance companies licensed to do business in the Commonwealth of Virginia. Other bid bond forms will be acceptable if in the same format as AIA Document A310, Bid Bond.

The Contract agreement will be on a form similar to that which is bound in the specifications. The completion date of construction shall be as indicated in the bid document. The successful bidder, simultaneously with the execution of the Contract agreement, shall be required to furnish a performance bond and a payment bond in an amount equal to one hundred percent (100%) of the Contract price, said bonds shall be secured from a surety company licensed to do business in the Commonwealth of Virginia and acceptable to the Suffolk City School Board.

4. QUALIFICATION OF CONTRACTORS

Each bidder shall submit with the bid a completed Contractors Qualification Statement using AIA Document A305, 1986 Edition (a copy is included after the Supplementary General Conditions).

Bidders are required to submit with the bid evidence of proper and current certificates of contractors' registration in Virginia.

5. LISTING OF SUBCONTRACTORS

The experience and responsibility of subcontractors may have bearing on the choice of a contractor by the Owner.

If required by the Owner, the apparent two low bidders shall deliver to the Owner within seventy-two (72) hours (not including Saturday, Sunday or State Holidays) for review the following information:

- a. Provide a list of the work to be performed by the bidder with his own forces.
- b. Provide the proprietary names and the suppliers of the principle parts (items, systems, materials, and equipment) proposed for the work.
- c. Provide a list of the names of the subcontractors to be employed for each of the principal parts of the work, copies of their agreements, and their corresponding dollar amounts.
- d. Provide a list of references and/or past projects for individual subcontractors performing a principal part of the work. This requirement applies to subcontractors at any tier.

Principal part shall mean a subcontract dollar value in excess of \$10,000.00.

The bidder will be required to establish the reliability and responsibility of the proposed subcontractors, manufactures, and suppliers who shall furnish and perform the work described in the specifications to the satisfaction of the Architect and the Owner.

These lists shall be binding upon the Contractor; however, the Owner has the right to reject any or all subcontractors which the Architect and the Owner determines to be unqualified to do the work. Owner may withhold awarding a contract to any particular bidder if the Owner considers one or more of the proposed contractors to be unqualified.

6. INTERPRETATIONS OF PLANS AND SPECIFICATIONS

If any person contemplating the submission of a bid for the proposed Contract is in doubt as to the true meaning of any part of the drawings, specifications or other proposed contract documents, he/she may submit a written request to RRMM Architects, Attention: Doug Cofer, 1317 Executive Blvd, Suite 200, Chesapeake, VA, 23320; telephone number (757) 622-2828. **The request must be submitted on the project Pre-Bid question form and e-mailed to all of the addresses indicated on the form.** The Pre-Bid Question Form is included after the Supplementary General Conditions for use by bidders when submitting questions. **Questions submitted in any other format will not receive a response.** Requests must be in writing and received no later than seven (7) days prior to the date of the bid opening, for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum. The Owner and the Architect will not be responsible for any other explanations or interpretations of the proposed documents.

7. ADDENDA OR BULLETINS

Contract documents, including any subsequent addenda, will be posted on eVa. It is the bidders' responsibility to check eVa's website to obtain any addenda.

8. RIGHT TO NEGOTIATE

The Owner reserves the right to negotiate with the lowest responsive and responsible Bidder to obtain a Contract price with funds available to the Owner whenever such low bid exceeds the Owner's availability of funds for the work.

9. AWARD OF CONTRACT

The Owner intends to award this contract in writing to the lowest responsive and responsible bidder provided the bid has been submitted in accordance with the requirements of the bid and contract documents, Virginia procurement regulations, is judged to be reasonable, and does not exceed the funds available. The Notice of Award will be posted on the Suffolk Public Schools Bid Board, located on the second floor of the School Board office, 100 North Main Street, Suffolk, VA 23434 and on the Suffolk Public Schools website.

The Owner reserves the right to waive any informality in any bid or in the bidding. The accepted bidder shall assist and cooperate with the Owner in preparing a formal Contract Agreement and within five (5) days following its presentation shall sign and deliver four (4) complete sets of Contract Agreement documents to the Owner, including but not limited to: the Agreement, the Performance Bond, Payment Bond, Hold Harmless Agreement, and all necessary Certificates of Insurance.

The successful bidder, upon failure or refusal to enter in the Contract and/or to furnish the required Performance Bond, Payment Bond, and other required documents within the time specified, shall pay to the Owner as liquidated damages, an amount equal to the bid guarantee deposited with the bid or a portion thereof equal to the difference between the bid security and the next highest acceptable bid.

10. TIME IS OF THE ESSENCE

Time is of the essence for this Contract.

11. RESPONSIBLE BIDDER

The Owner reserves the right to award a contract as may be in their best interest and to award to the lowest responsive and responsible bidder. In determining the "lowest responsible bidder" Suffolk Public Schools may consider the following:

- a. Past performances of the contractor and subcontractors that indicate their ability to complete this project (includes organization, equipment available and any other indicators)
- b. Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay.
- c. Quality of products used and adherence to bid specifications
- d. The sufficiency of financial resources and the ability of bidder to perform the contract
- e. The previous and existing compliance by the bidder with laws and ordinances
- f. The quality of performance of previous contracts or services

In addition, the Owner reserves the right to reject any or all bids or to negotiate with the low bidder in the case of insufficient funds.

12. COST BREAKDOWN

The Contractor shall, before starting his work, submit to the Owner and Architect the cost of various segments of the work according to construction activity, the total amount equaling the Contract price. This breakdown shall be used as the basis for the payment of estimates as stated in the Contract Documents.

13. RIGHT TO REJECT BIDS

The Owner reserves the right to reject any or all bids, in whole or in part; to waive informalities; and/or to delete items prior to making an award; whenever it may be deemed by the Owner to be in their best interest.

14. BID BOND OR CHECKS OF SUCCESSFUL BIDDERS

Bid Bond or Checks submitted by the successful bidder will be returned upon acceptance of the 100% performance bond and separate 100% payment bond. Checks from other bidders, not previously forfeited, will be returned as soon as it is determined that the bids represented by the checks will receive no further consideration by the Owner.

15. REVISIONS TO BID

Handwritten or typed notes on the envelope containing the bid will not be accepted as authorized modifications to the Bid Form included herein. The bid amount indicated on the Bid Form will be the only data considered.

16. WITHDRAWAL OF BIDS

Bids may be withdrawn by written or telegraphic request received from bidders prior to the time fixed for the bid opening. Telegraphic requests must be received by the Owner in written form before the bid opening. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened except as permitted in Section 2.2-4330 of the Code of Virginia as outlined below.

A bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake in the bid, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid, whereby the unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn.

The bidder must give notice in writing of his claim of right to withdraw his bid within two (2) business days after the conclusion of the bid opening procedure. This notice to the Owner must be accompanied with his original work papers, documents, and materials used in the preparation of the bid. Such work papers shall be delivered to the Owner by the bidder in person or by registered mail.

Such mistake shall be proved only from the original work papers, documents, and materials delivered to the Owner as required herein.

Failure of bidder to submit his original work papers, documents, and materials used in the preparations of this bid at the time, date and place required, shall constitute a waiver of bidders' right to claim a mistake in his bid.

No bid shall be withdrawn under this section when the result would be the awarding of the Contract on another bid of the same bidder.

No bidder who is permitted to withdraw a bid shall for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the Contract is awarded or otherwise benefit directly or indirectly from the performance of the Project for which the withdrawn bid was submitted.

If the bid is withdrawn under authority of this section, the next lowest responsive and responsible bidder shall be deemed to be the low bidder on the Project.

When the procedure set forth in the paragraphs above is utilized, original work papers, documents, and materials used in the preparation of the bid must be submitted in an envelope or package separate and apart from the envelope containing the bid marked clearly as to the contents.

END OF DOCUMENT 000213

THIS PAGE INTENTIONALLY LEFT BLANK

DOCUMENT 000300 - BID FORM

IFB-1762, SECEP Renovations at JFK Middle School
BID FORM

This bid is for the **SECEP Renovation at JFK Middle School** located at 2327 E Washington St, Suffolk, VA 23434.

Each bidder shall submit their bid on this form. Submit two (2) copies of this form completed and with original signatures.

To: **Anthony W. Hinds CPPB
Department of Purchasing
Suffolk Public Schools
100 North Main Street
Suffolk, Virginia 23434**

From: _____
(Name)

(Address)

Having carefully examined the bid documents including the Invitation to Bid, Instructions to Bidders, Specifications, Drawings, Terms of Agreement and Addenda (if any) prepared by the architect, entitled:

SECEP Renovation at JFK Middle School

as well as the premises and conditions affecting the work, the undersigned proposes to furnish all labor, supervision, materials, equipment, and services necessary to perform all the work in accordance with the contract documents for the following lump sum amount.

BASE BID:

The Lump Sum Base Bid price for the entire work in this package, including any allowances and the assumption that the existing vinyl asbestos tile contain asbestos, completed within the time limits and in accordance with the contract documents is:

_____ Dollars
(Words)

(\$ _____) .
(Figures)

ADDENDA:

The above stated bid is based on the Contract Documents and the following additional addenda issued subsequent to the release of the drawings and specifications for bids. (List all addenda with dates, if issued. If no addenda are issued, write the word "none".)

Addenda # _____ Date _____ Addenda # _____ Date _____

Addenda # _____ Date _____ Addenda # _____ Date _____

TIME OF COMPLETION:

Work at the site shall commence within ten (10) working days following the execution of the contract or the Notice-To-Proceed. The Owner anticipates the Award of this contract or the issuance of the Notice-Of-Award on or before May 24, 2021. All work shall be substantially complete no later than August 6, 2021 and 100% Final Completion shall be achieved no later than August 20, 2021.

PROFIT AND OVERHEAD FOR CHANGE ORDERS:

Change Orders initiated per Article 7 of the General Conditions shall be executed on the basis of the cost of the work, plus a percentage of the work, according to the percentages indicated in Articles 7.3.11 of the Supplemental Conditions.

OTHER:

If notified of the acceptance of this bid within (60) calendar days after the date fixed for the opening of the bids, the undersigned agrees to execute and deliver to the owner the Contract and Contractor's Bonds within ten (10) calendar days from the date of notification and, to faithfully and properly complete the work with the best interest of the Owner, the safety of the public, and in accordance with first class workmanship.

The undersigned agrees that the Owner may retain five percent (5%) of the Contract amount as specified in the **Sample Agreement/Agreement**.

BID SECURITY:

Attached hereto is a cashier's check, certified check, or Bid Bond (AIA Document A310 or from a Surety Company authorized to do business in the Commonwealth of Virginia and acceptable to the Owner), none of which shall be less than five percent (5%) of the principle bid amount, and made payable to Suffolk City School Board.

The undersigned agrees, if awarded the Contract, to comply with all provisions regarding commencement, performance, completion, and acceptance of the work described in the above-mentioned specifications and drawings, construction contract, and as stipulated in this proposal. The undersigned further agrees, if awarded this contract, to execute and deliver Performance and Labor and Material Payment bonds each in an amount equal to one hundred percent (100%) of the Contract Price. In case of bidder's failure to execute the Contract, provide a performance bond, or to commence the work, the check or bid bond shall be paid as liquidated damages for such failure; otherwise the check or bid bond accompanying the proposal will be returned to the Undersigned.

LIQUIDATED DAMAGES:

The Bidder acknowledges and agrees to the liquidated damages specified in the **Sample Agreement/Agreement**. Bidder also acknowledges that time is of the essence and that work to be performed by others and/or use of the school is restrained by the timely completion of the work within this contract.

BID FORM SIGNATURE(S):

The Undersigned declares that this firm is (check one):

- ☐ A Corporation organized and existing under the laws of _____.
- ☐ A Partnership consisting of _____.
- ☐ A sole Proprietorship.
- ☐ Other _____.

Virginia State Corporation Commission ID # _____

It is agreed, that the Undersigned has complied with and/or will comply with all requirements concerning licensing and with all other Local, State, and National laws and that no legal requirement has been, or will be, violated in making or accepting this proposal, in awarding the contract to him, and/or in the prosecution of the work required therein.

The Undersigned declares that the person, or persons, signing this proposal is/are fully authorized to sign the proposal on behalf of the firm listed and to fully bind their firm listed to all the conditions and provisions thereof. It is agreed that no person, persons, or company other than the firm listed below or as otherwise indicated hereinafter has any interest whatsoever in this proposal of the Contract that may be entered into as a result thereof and that in all respects the proposal is legal, fair, and submitted in good faith without collusion or fraud.

Respectfully submitted this _____ day of _____, 2021.

(Name of Firm)

(Address)

Affix Seal

Telephone (____) _____ Fax (____) _____

Email address _____

Registered Virginia Contractor #: _____ (Please attach a copy of the registration)

By: _____
(Signature)

Name: _____
(Printed)

Title: _____
(Printed)

Affix Seal

END OF DOCUMENT 000300

THIS PAGE INTENTIONALLY LEFT BLANK

DRAFT AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

<< >>< >>
<< >>

SURETY:

(Name, legal status and principal place of business)

<< >>< >>
<< >>

OWNER:

(Name, legal status and address)

<< >>< >>
<< >>

BOND AMOUNT: \$ << >>

PROJECT:

(Name, location or address, and Project number, if any)

<<BLANK>>
<< >>
<< >>

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

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

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

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.

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.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

Signed and sealed this « » day of « », « »

(Witness)

(Witness)

« »

(Contractor as Principal) (Seal)

« »

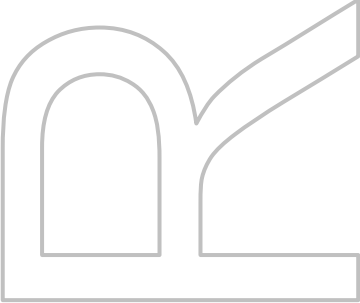
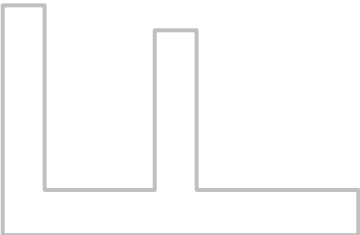
(Title)

« »

(Surety) (Seal)

« »

(Title)



SECTION 000500 - SAMPLE AGREEMENT

Sample Agreement

Suffolk City School Board

Bid # -1762 – SECEP Renovation at JFK Middle School

THIS AGREEMENT, made and entered into this _____ day of _____, 2021 by and between the Suffolk City School Board, (hereinafter called the Owner), whose address is 100 N Main Street, Suffolk, VA 23434 and _____ (hereinafter called the Contractor), whose address is _____.

WITNESSETH: WHEREAS, the Owner intends to contract the construction of SECEP Renovations at JFK Middle School. The project is located at 2327 E Washington St, Suffolk, VA 23434.

WHEREAS, the Contractor agrees to perform the work for the sum herein stated.

NOW THEREFORE, the Owner and the Contractor agree as set forth below.

ARTICLE 1. SCOPE OF WORK

The work to be performed shall be in accordance with IFB-1762 and all related Contract Documents prepared by RRMM Architects dated April 30, 2021 and entitled “**SECEP Renovation at JFK Middle School**”. The Contractor agrees to furnish all labor, materials, equipment and supervision to complete the work as required in the Contract Documents, which are hereby made a part of this contract by reference. It is understood and agreed by the parties hereto that all work shall be performed as required in IFB-1762 and related Contract Documents and shall be subject to inspection and approval by the Owner or its authorized representative. The relationship of the Contractor to the Owner hereunder is that of an independent Contractor. The Contract Documents are defined in the General Conditions and are incorporated herein by reference.

ARTICLE 2. TIME OF COMPLETION

The Contractor shall commence the work promptly upon the date established in the Notice of Award or Notice to Proceed. The Contractor shall achieve all the times and dates shown on the bid form, which are incorporated herein by reference and made a part of this Contract as though fully set forth herein. All work shall be Substantially Complete no later than August 6, 2021 and 100% Final Completion shall be achieved no later than August 20, 2021.

ARTICLE 3. CONTRACT SUM

The Owner agrees to pay, and the Contractor agrees to accept in full performance of this Contract, the sum of _____, (\$_____) which sum also includes:

- A) The cost of a 100% Performance Bond and a 100% Payment Bond, said bonds having been posted by the Contractor pursuant to laws of the Commonwealth of Virginia;
- B) All work included in bid Addenda Number(s) _____.

ARTICLE 4. PAYMENT

The Owner agrees to pay the Contractor as the work progresses, but not more frequently than once each month after the date of the Notice of Award or Notice to Proceed, and only after fully complying with the General Conditions and completion of an acceptable Certificate of Payment for the work performed during the preceding calendar month, ninety-five percent (95%) of the value of the labor performed and, subject to the requirements of the General Conditions, ninety-five percent (95%) of the value of materials furnished in place or on-site.

The Contractor shall supply such evidence of labor performed and materials furnished, as the Owner may desire, at time of request for the Certificate of Payment of account. Materials for which payment has been made cannot be removed from job site.

Retainage Reduction – Five percent (5%) of the earned amount shall be retained from each monthly payment until fifty percent (50%) of the dollar amount of the Contract has been earned. During the last fifty percent (50%) of the Contract, retainage may be reduced pursuant to applicable provisions of the General Conditions.

ARTICLE 5. INDEBTEDNESS

Before final payment is made, the Contractor must submit evidence in the form of a final waiver of lien or claim to the Owner that all payrolls, materials bills, subcontracts and outstanding indebtedness in connection with the work have been paid or what arrangements have been made for their payment.

Payment will be made without unnecessary delay and after receipt of such evidence as mentioned above and final acceptance of the work by the Owner.

ARTICLE 6. ADDITIONAL WORK

It is understood and agreed by the parties hereto that no money will be paid to the Contractor for any additional labor or materials furnished unless a new contract in writing or a modification hereto for such additional materials or labor has been executed by the Owner and Contractor. The Owner specifically reserves the right to modify or amend this Contract and the total sum due hereunder either by enlarging or restricting the scope of work.

ARTICLE 7. ACCEPTANCE

The work shall be inspected for acceptance by the Owner and Architect promptly upon receipt of notice from the Contractor that the work is complete and ready for inspection.

ARTICLE 8. DISPUTES PERTAINING TO PAYMENT FOR WORK

Should disputes arise regarding the value of any work done, or any work omitted, or of any extra work which said Contractor may be required to perform, or respecting any other elements involved in this Contract, said dispute shall be brought to the attention of the Program Manager who will endeavor to settle matters. If he/she is unsuccessful, the dispute will be brought to the attention of the Suffolk City School Board and their decision shall be final and conclusive.

ARTICLE 9. TERMINATION FOR BREACH, ETC.

If the Contractor shall be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors violate any of the provisions of this Contract, the Owner may serve written notice upon him of its intention to terminate said Contract; and unless, within ten (10) days after the serving of such notice, such violation shall cease, the Owner then may take over the work and prosecute same to completion by contract or by any other method it may deem advisable for the account and at the expense of the Contractor. The Owner may take possession of and utilize in completing the work, such materials, equipment, and any other property belonging to the Contractor as may be on the site of the work and necessary therefore. The Owner may, at any time upon ten (10) days written notice to the Contractor, terminate (without prejudice to any right or remedy of the Owner) the whole or any portion of the work for the convenience of the Owner.

ARTICLE 10. OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNT AND MAKE APPLICATION THEREOF

The Owner may withhold from payment to the Contractor such an amount or amounts as, in the Owner's sole judgment, may be necessary to pay just claims against the Contractor or any subcontractor for labor and services rendered and materials furnished in and about the work. The Owner may apply such withheld amounts on the payment of such claims in its sole discretion. In so doing, the Owner shall be deemed the agent of the Contractor and payments so made by the Owner shall be made by the Owner under the terms of the Contract and in good faith and no liability whatsoever shall attach to the Owner for having made such payments. Such payments may be made without prior determination by the Owner of the validity of any claim or claims.

ARTICLE 11. LIABILITY AND INDEMNIFICATION

The Contractor agrees that it shall at all times protect and indemnify and save harmless, the Suffolk City School Board and all institutions, agencies, departments, authorities and instrumentalities of the School Board and any member of the School Board or of their boards or commissions or any of the elected or appointed officers or any of their employees or authorized volunteers as described in the General Conditions of the project specifications which are included herein by reference, from any and all claims, damages of every kind and nature made, rendered or incurred by or in behalf of any person or corporation whatsoever, including the parties hereto and their employees that may arise, that occur or grow out of any acts, actions, work or other activity done by the said Contractor in the performance and execution of this Contract.

ARTICLE 12. SUBCONTRACTOR

No part of this Contract shall be sublet by the Contractor without prior written approval of the Owner.

ARTICLE 13. LIQUIDATED DAMAGES

Should the Contractor fail to Finally Complete the work on or before the Contract Completion Date, referred to in Article 2 hereof, the Contractor shall pay to the Owner the sum of \$500.00 for each consecutive calendar day that terms of the Contract remain unfulfilled as defined in Article 9, Section 9.11 of the Supplementary General Conditions of the Construction Contract.1

ARTICLE 14. NONDISCRIMINATION

During the performance of this contract, the contractor agrees as follows:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
- c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

The contractor will include the provisions of the foregoing paragraphs a, b and c in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

Suffolk Public Schools does not discriminate against faith-based organizations.

ARTICLE 15, DRUG FREE WORKPLACE

During the performance of this contract, the contractor agrees to:

- a. Provide a drug-free work place for the contractor's employees,
- b. Post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession or use of a controlled substance or marijuana is prohibited in the contractor's work place and specifying the actions that will be taken against employees for violations of such prohibition,
- c. State in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free work place,
- d. Include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

ARTICLE 16, CONTRACTOR/EMPLOYEE BACKGROUND CERTIFICATION

Upon award, the contractor and any employee who will have direct contact with students shall provide certification that (i) he has not been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; and (ii) whether he has been convicted of a crime of moral turpitude.

Any person making a materially false statement regarding such offense shall be guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services. **(Included)**

ARTICLE 17, STATE CORPORATION COMMISSION ID NUMBER

In accordance with new registration requirements effective July 1, 2010, the Contractor shall include the identification number issued by the State Corporation Commission as proof of registration or justification for non-registration per the requirements in Section 13.1 or Title 50 of the Code of Virginia.

SCC ID # _____

ARTICLE 18, COMPLIANCE WITH FEDERAL IMMIGRATION LAW

The Contractor shall not, during the performance of a contract knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986.

ARTICLE 19, SUSPENSION AND DISBARMENT

The Vendor certifies that neither the Vendor or its principals; the sub-recipients or their principals; or the subcontractors or their principals are suspended, debarred, proposed for debarment, voluntarily excluded from covered transactions, or otherwise disqualified by any federal department or agency from doing business with the Federal government pursuant to Executive Orders 12549 and 12689. The Vendor specifically covenants that neither the Vendor nor its principals; the subcontractors or their principals; nor the sub-recipients or their principals are included on the Excluded Parties List System maintained by the General Services Administration or the debarment and suspension list kept on file by EVA. By responding to this solicitation, the Vendor is certifying they are in "Good Standing". (Attachment 2).

CONTRACTOR/EMPLOYEE BACKGROUND CERTIFICATION

Pursuant to Virginia Code Section 22.1-296.1.C, prior to the award of a contract for the provision of services that require the contractor or any of its employees to have direct contact with students, the school board is required to have the contractor, and when relevant, any employee who will have direct contact with students, provide certification that (i) he has not been convicted of any violent felony as set forth in the definition of a barrier crime in Virginia Code 19.2-392.02, or any offense involving the sexual molestation or physical or sexual abuse or rape of a child.

The School Board may award a contract for the provision of services that require the contractor or employees of the contractor to have direct contact with students on school property during regular school hours or during school-sponsored activities when any individual who provides such services has been convicted of any felony or crime of moral turpitude that is not set forth in the definition of barrier crime in subsection A of Virginia Code 19.2-392.02 and does not involve sexual molestation, physical or sexual abuse, or rape of a child, provided that in the case of a felony conviction, the Governor has restored the individual's civil rights.

So as not to place an undue burden or hardship on the day to day operation of the school division and remain in compliance with the aforementioned Code provision, any contractor providing services for Suffolk Public Schools, whose employees will have direct contact with students, is required to provide the certification listed below:

As a contractor providing services for Suffolk Public Schools, whose employees will have direct contact with students, I certify that neither the contractor nor any of its employees, whether current employees or those who will be employed in the future, have been (i) convicted of a felony as set forth in the definition of a barrier crime or any offense involving the sexual molestation or physical or sexual abuse or rape of a child and/or meet the terms as outlined above:

CONTRACTOR NAME _____

BUSINESS ADDRESS _____

PHONE NUMBER _____

CERTIFIED BY _____

PRINTED NAME _____

TITLE _____

DATE _____

Any person making a materially false statement regarding any such offense shall be guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services. School boards shall not be liable for materially false statements regarding the certifications required by this subsection. For the purposes of this subsection, "direct contact with students" means being in the presence of students during regular school hours or during school-sponsored activities

**Certification Regarding Debarment, Suspension, and Other
Responsibility Matters - Primary Covered Transactions**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989, Federal Register (Pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency offering the proposed covered transaction.

(Before completing certification, read instructions on Page 2)

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (*Federal, State or Local*) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (*Federal, State or Local*) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) have not within a three-year period preceding this application/proposal had one or more public transactions (*Federal, State or Local*) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

ORGANIZATION NAME	PR/AWARD NUMBER OR PROJECT
NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
SIGNATURE	DATE (MM-DD-YYYY)

SIGNATURE PAGES

IN WITNESS WHEREOF, the parties have caused the Agreement to be executed by the following duly authorized officials.

SUFFOLK CITY SCHOOL BOARD,
A Body Corporation

By: _____
Chair
Suffolk City School Board

By: _____
Superintendent
Suffolk City Public Schools

NOTARY CLAUSE

Commonwealth of Virginia

City/County _____, to wit: The following instrument was

Acknowledged before me this _____ day of _____, 2021 by _____
Name

_____, _____, and
Name Title

_____, _____.
Name Title

My commission expires: _____

Notary Number: _____

Notary Public

Contractor

By: _____
Signature

Print Name

Title

NOTARY CLAUSE

Commonwealth of Virginia

City/County _____, to wit: The following instrument was

Acknowledged before me this _____ day of _____, 2021 by _____
Name

_____, _____, and
Name Title

_____, _____.
Name Title

My commission expires: _____

Notary Number: _____

Notary Public

APPROVED AS TO FORM AND CONTENT:

School Board Attorney

END OF SECTION 000500

THIS PAGE INTENTIONALLY LEFT BLANK

DRAFT AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

«BLANK»

<< >>

THE OWNER:

(Name, legal status and address)

<< >><< >>

<< >>

THE ARCHITECT:

(Name, legal status and address)

<< >><< >>

<< >>

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
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

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.

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

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

INDEX

(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,
10.2.8, 13.4.2, 13.7, 14.1, 15.2

Addenda

1.1.1, 3.11

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.5**

Additional Insured

11.1.4

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.5**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.6.3, 9.7, 9.10,
11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10,
4.2.7, 9.3.2, 13.5.1

Arbitration

8.3.1, 11.3.10, 13.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.4, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2,
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Architect, Limitations of Authority and
Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,
4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,
9.4.2, 9.5.3, 9.6.4, 15.1.3, 15.2

Architect's Additional Services and Expenses

2.4, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.4, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,
7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,
13.5.2, 15.2, 15.3

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,
3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18,
4.1.2, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.4.2, 13.5,
15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3.7

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1, 15.2.5, 15.2.6.1, 15.3.1,
15.3.2, 15.4.1

Boiler and Machinery Insurance

11.3.2

Bonds, Lien

7.3.7.4, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.7.4, 9.6.7, 9.10.3, 11.3.9, **11.4**

Building Permit

3.7.1

Capitalization

1.3

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,

9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3

Certificates of Inspection, Testing or Approval

13.5.4

Certificates of Insurance

9.10.2, 11.1.3

Change Orders

1.1.1, 2.4, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8,
5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.6, 7.3.9, 7.3.10,
8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9,
12.1.2, 15.1.3

Change Orders, Definition of

7.2.1

CHANGES IN THE WORK

2.2.1, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,
11.3.9

Claims, Definition of

15.1.1

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4

Claims and Timely Assertion of Claims

15.4.1

Claims for Additional Cost

3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, **15.1.4**

Claims for Additional Time

3.2.4, 3.7.4, 6.1.1, 8.3.2, 10.3.2, **15.1.5**

Concealed or Unknown Conditions, Claims for

3.7.4

Claims for Damages

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,
11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Claims Subject to Arbitration

15.3.1, 15.4.1

Cleaning Up

3.15, 6.3

Commencement of the Work, Conditions Relating to
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,
6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1,
15.1.4

Commencement of the Work, Definition of

8.1.2

Communications Facilitating Contract

Administration

3.9.1, **4.2.4**

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,
9.10, 12.2, 13.7, 14.1.2

COMPLETION, PAYMENTS AND

9

Completion, Substantial

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,
12.2, 13.7

Compliance with Laws

1.6, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 10.2.2,
11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14.1.1,
14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,
9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2

Consolidation or Joinder

15.4.4

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

1.1.4, **6**

Construction Change Directive, Definition of

7.3.1

Construction Change Directives

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**,
9.3.1.1

Construction Schedules, Contractor's

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

15.1.3

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 11.3.9, **14**

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating
to

3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1

Contract Documents, Copies Furnished and Use of
1.5.2, 2.2.5, 5.3

Contract Documents, Definition of

1.1.1

Contract Sum

3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, **9.1**, 9.4.2, 9.5.1.4,
9.6.7, 9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4,
15.2.5

Contract Sum, Definition of

9.1

Contract Time

3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4,
8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2,
15.1.5.1, 15.2.5

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, 6.1.2

Contractor's Construction Schedules

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8

Contractor's Relationship with the Architect

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

9.7

Contractor's Right to Terminate the Contract

14.1, 15.1.6

Contractor's Submittals

3.10, 3.11, 3.12.4, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance

11.1.1.8, 11.2

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.2.5, 3.11

Copyrights

1.5, 3.17

Correction of Work

2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**

Correlation and Intent of the Contract Documents
1.2

Cost, Definition of

7.3.7

Costs

2.4, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.3, 12.1.2, 12.2.1, 12.2.4, 13.5, 14

Cutting and Patching

3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 11.3.1, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Damages for Delay

6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

Date of Commencement of the Work, Definition of

8.1.2

Date of Substantial Completion, Definition of

8.1.3

Day, Definition of

8.1.4

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.3, 2.4, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 15.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1

Delays and Extensions of Time

3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.5, 15.2.5

Disputes

6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site

3.11

Drawings, Definition of

1.1.5

Drawings and Specifications, Use and Ownership of
3.11

Effective Date of Insurance

8.2.2, 11.1.2

Emergencies

10.4, 14.1.1.2, 15.1.4

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Equipment, Labor, Materials or
 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
 Execution and Progress of the Work
 1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5,
 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2,
 9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
 Extensions of Time
 3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,
 10.4, 14.3, 15.1.5, 15.2.5
Failure of Payment
 9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
 Faulty Work
 (See Defective or Nonconforming Work)
Final Completion and Final Payment
 4.2.1, 4.2.9, 9.8.2, **9.10**, 11.1.2, 11.1.3, 11.3.1, 11.3.5,
 12.3, 14.2.4, 14.4.3
 Financial Arrangements, Owner's
 2.2.1, 13.2.2, 14.1.1.4
 Fire and Extended Coverage Insurance
 11.3.1.1
GENERAL PROVISIONS
1
Governing Law
13.1
 Guarantees (See Warranty)
Hazardous Materials
 10.2.4, **10.3**
 Identification of Subcontractors and Suppliers
 5.2.1
Indemnification
 3.17, **3.18**, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,
 11.3.7
Information and Services Required of the Owner
 2.1.2, **2.2**, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,
 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,
 13.5.2, 14.1.1.4, 14.1.4, 15.1.3
Initial Decision
15.2
Initial Decision Maker, Definition of
 1.1.8
 Initial Decision Maker, Decisions
 14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5
 Initial Decision Maker, Extent of Authority
 14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,
 15.2.5
Injury or Damage to Person or Property
10.2.8, 10.4
 Inspections
 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,
 9.9.2, 9.10.1, 12.2.1, 13.5
 Instructions to Bidders
 1.1.1
 Instructions to the Contractor
 3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2

Instruments of Service, Definition of
1.1.7
 Insurance
 3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, **11**
Insurance, Boiler and Machinery
11.3.2
Insurance, Contractor's Liability
11.1
 Insurance, Effective Date of
 8.2.2, 11.1.2
Insurance, Loss of Use
11.3.3
Insurance, Owner's Liability
11.2
Insurance, Property
 10.2.5, **11.3**
 Insurance, Stored Materials
 9.3.2
INSURANCE AND BONDS
11
 Insurance Companies, Consent to Partial Occupancy
 9.9.1
 Intent of the Contract Documents
 1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4
Interest
13.6
Interpretation
 1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1
 Interpretations, Written
 4.2.11, 4.2.12, 15.1.4
 Judgment on Final Award
 15.4.2
Labor and Materials, Equipment
 1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
 Labor Disputes
 8.3.1
 Laws and Regulations
 1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1,
 10.2.2, 11.1.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6,
 14, 15.2.8, 15.4
 Liens
 2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8
 Limitations, Statutes of
 12.2.5, 13.7, 15.4.1.1
 Limitations of Liability
 2.3, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,
 4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3,
 11.1.2, 11.2, 11.3.7, 12.2.5, 13.4.2
 Limitations of Time
 2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,
 5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,
 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,
 11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15
Loss of Use Insurance
11.3.3

Material Suppliers

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5

Materials, Hazardous

10.2.4, **10.3**

Materials, Labor, Equipment and

1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 15.2.8

Mediation

8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, **15.3**, 15.4.1

Minor Changes in the Work

1.1.1, 3.12.8, 4.2.8, 7.1, **7.4**

MISCELLANEOUS PROVISIONS

13

Modifications, Definition of

1.1.1

Modifications to the Contract

1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2, 11.3.1

Mutual Responsibility

6.2

Nonconforming Work, Acceptance of

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of
2.3, 2.4, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Notice

2.2.1, 2.3, 2.4, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1, 9.7, 9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1, 13.5.2, 14.1, 14.2, 15.2.8, 15.4.1

Notice, Written

2.3, 2.4, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, **13.3**, 14, 15.2.8, 15.4.1

Notice of Claims

3.7.4, 10.2.8, **15.1.2**, 15.4

Notice of Testing and Inspections

13.5.1, 13.5.2

Observations, Contractor's

3.2, 3.7.4

Occupancy

2.2.2, 9.6.6, 9.8, 11.3.1.5

Orders, Written

1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1, 13.5.2, 14.3.1

OWNER

2

Owner, Definition of

2.1.1

Owner, Information and Services Required of the

2.1.2, **2.2**, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1, 13.5.2, 14.1.1.4, 14.1.4, 15.1.3

Owner's Authority

1.5, 2.1.1, 2.3, 2.4, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Financial Capability

2.2.1, 13.2.2, 14.1.1.4

Owner's Liability Insurance

11.2

Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Right to Carry Out the Work

2.4, 14.2.2

Owner's Right to Clean Up

6.3

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

6.1

Owner's Right to Stop the Work

2.3

Owner's Right to Suspend the Work

14.3

Owner's Right to Terminate the Contract

14.2

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

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.2.5, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

Partial Occupancy or Use

9.6.6, **9.9**, 11.3.1.5

Patching, Cutting and

3.14, 6.2.5

Patents

3.17

Payment, Applications for

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 13.7, 14.1.1.3, 14.2.4

Payment, Failure of

9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2

Payment, Final

4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3, 13.7, 14.2.4, 14.4.3

Payment Bond, Performance Bond and

7.3.7.4, 9.6.7, 9.10.3, **11.4**

Payments, Progress

9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3

PAYMENTS AND COMPLETION

9

Payments to Subcontractors
 5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2
 PCB
 10.3.1
Performance Bond and Payment Bond
 7.3.7.4, 9.6.7, 9.10.3, 11.4
Permits, Fees, Notices and Compliance with Laws
 2.2.2, 3.7, 3.13, 7.3.7.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION OF
10
 Polychlorinated Biphenyl
 10.3.1
Product Data, Definition of
3.12.2
Product Data and Samples, Shop Drawings
 3.11, 3.12, 4.2.7
Progress and Completion
 4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.3
Progress Payments
 9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
Project, Definition of
1.1.4
 Project Representatives
 4.2.10
Property Insurance
 10.2.5, 11.3
PROTECTION OF PERSONS AND PROPERTY
10
 Regulations and Laws
 1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1,
 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14,
 15.2.8, 15.4
 Rejection of Work
 3.5, 4.2.6, 12.2.1
 Releases and Waivers of Liens
 9.10.2
 Representations
 3.2.1, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1,
 9.8.2, 9.10.1
 Representatives
 2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1,
 5.1.2, 13.2.1
 Responsibility for Those Performing the Work
 3.3.2, 3.18, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10
 Retainage
 9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field
Conditions by Contractor
3.2, 3.12.7, 6.1.3
 Review of Contractor's Submittals by Owner and
 Architect
 3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
 Review of Shop Drawings, Product Data and
 Samples by Contractor
 3.12

Rights and Remedies
 1.1.2, 2.3, 2.4, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,
 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4,
13.4, 14, 15.4
Royalties, Patents and Copyrights
3.17
 Rules and Notices for Arbitration
 15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
 3.3.1, 4.2.2, 4.2.7, 5.3, 10.1, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, 3.12, 4.2.7
Samples at the Site, Documents and
3.11
Schedule of Values
9.2, 9.3.1
 Schedules, Construction
 3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2
 Separate Contracts and Contractors
 1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
 3.11, 3.12, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1
 Site Inspections
 3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5
 Site Visits, Architect's
 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5
 Special Inspections and Testing
 4.2.6, 12.2.1, 13.5
Specifications, Definition of
1.1.6
Specifications
 1.1.1, 1.1.6, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14
 Statute of Limitations
 13.7, 15.4.1.1
 Stopping the Work
 2.3, 9.7, 10.3, 14.1
 Stored Materials
 6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
 Subcontractors, Work by
 1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2,
 9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1

Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3,
9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3
Submittal Schedule
3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, **11.3.7**
Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3,
12.2, 13.7
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
4.1.3
Substitutions of Materials
3.4.2, 3.5, 7.3.8
Sub-subcontractor, Definition of
5.1.2
Subsurface Conditions
3.7.4
Successors and Assigns
13.2
Superintendent
3.9, 10.2.6
Supervision and Construction Procedures
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,
7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3
Surety
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7
Surety, Consent of
9.10.2, 9.10.3
Surveys
2.2.3
Suspension by the Owner for Convenience
14.3
Suspension of the Work
5.4.2, 14.3
Suspension or Termination of the Contract
5.4.1.1, 14
Taxes
3.6, 3.8.2.1, 7.3.7.4
Termination by the Contractor
14.1, 15.1.6
Termination by the Owner for Cause
5.4.1.1, **14.2**, 15.1.6
Termination by the Owner for Convenience
14.4
Termination of the Architect
4.1.3
Termination of the Contractor
14.2.2
TERMINATION OR SUSPENSION OF THE
CONTRACT
14

Tests and Inspections
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,
9.10.1, 10.3.2, 11.4.1, 12.2.1, **13.5**
TIME
8
Time, Delays and Extensions of
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7,
10.3.2, 10.4, 14.3.2, 15.1.5, 15.2.5
Time Limits
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5,
13.7, 14, 15.1.2, 15.4
Time Limits on Claims
3.7.4, 10.2.8, **13.7**, 15.1.2
Title to Work
9.3.2, 9.3.3
Transmission of Data in Digital Form
1.6
UNCOVERING AND CORRECTION OF
WORK
12
Uncovering of Work
12.1
Unforeseen Conditions, Concealed or Unknown
3.7.4, 8.3.1, 10.3
Unit Prices
7.3.3.2, 7.3.4
Use of Documents
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3
Use of Site
3.13, 6.1.1, 6.2.1
Values, Schedule of
9.2, 9.3.1
Waiver of Claims by the Architect
13.4.2
Waiver of Claims by the Contractor
9.10.5, 13.4.2, 15.1.6
Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6
Waiver of Consequential Damages
14.2.4, 15.1.6
Waiver of Liens
9.10.2, 9.10.4
Waivers of Subrogation
6.1.1, **11.3.7**
Warranty
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7
Weather Delays
15.1.5.2
Work, Definition of
1.1.3
Written Consent
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5,
9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2
Written Interpretations
4.2.11, 4.2.12

Written Notice

2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7,
9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, **13.3**, 14,
15.4.1

Written Orders

1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1,
15.1.2



ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

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

§ 1.1.2 THE CONTRACT

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

§ 1.1.3 THE WORK

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

§ 1.1.4 THE PROJECT

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

§ 1.1.5 THE DRAWINGS

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

§ 1.1.6 THE SPECIFICATIONS

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

§ 1.1.7 INSTRUMENTS OF SERVICE

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

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

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

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

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

§ 1.3 CAPITALIZATION

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

§ 1.4 INTERPRETATION

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

§ 1.5 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 will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment 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 this 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 material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

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

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

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or

the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

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

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

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

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

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

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

§ 2.4 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 written 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 deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor 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. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

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

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

§ 3.1.3 The Contractor shall not be relieved of 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.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

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

§ 3.3 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, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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

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

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other

facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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

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

§ 3.5 WARRANTY

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.

§ 3.6 TAXES

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

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

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

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

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

§ 3.7.4 Concealed or Unknown Conditions. 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 21 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 an equitable adjustment 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 proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume

the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 SUPERINTENDENT

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

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply 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.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be 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, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

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

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

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

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

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

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has 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 requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written 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. 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 cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and 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 and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's 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 or 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 Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect 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 such 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 the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, 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, 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 by the negligent 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 that would otherwise exist as to a party or person described in this Section 3.18.

§ 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.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 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.

§ 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.

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

§ 4.2 ADMINISTRATION OF THE CONTRACT

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

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 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 report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) 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 FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 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 13.5.2 and 13.5.3, whether or not such 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, material and equipment 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, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

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

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or 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 or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

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

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

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

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, 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, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may

be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

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

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

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

§ 5.4.3 Upon such 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 Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 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 other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

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

§ 6.2 MUTUAL RESPONSIBILITY

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

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report 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, except as to defects not then reasonably discoverable.

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

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

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

§ 6.3 OWNER'S RIGHT TO CLEAN UP

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

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

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

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

§ 7.2 CHANGE ORDERS

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

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

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

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

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

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

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

.4 As provided in Section 7.3.7.

§ 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.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the 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.

§ 7.3.6 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.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

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

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

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

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

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.

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

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

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

§ 8.2 PROGRESS AND COMPLETION

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

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 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 an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

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.

§ 9.2 SCHEDULE OF VALUES

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

§ 9.3 APPLICATIONS FOR PAYMENT

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

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

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

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. 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.

§ 9.3.3 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, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or 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 comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. 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. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. 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 material 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 for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

§ 9.5.3 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 material or equipment suppliers 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 Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

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

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

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

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment 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 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, except as may otherwise be required by law.

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

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

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

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect,

stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

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

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

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

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall 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 such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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

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

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the

Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of 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.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial 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 and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, 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. If such lien 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 such lien, including all costs and reasonable attorneys' fees.

§ 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 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 surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

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

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material 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.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .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 or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall 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 owners and users of adjacent sites and utilities.

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

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

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such 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

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. 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 report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for 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 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 indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do 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 that 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;
- .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 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction

of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

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

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or

otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 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, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

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, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the

Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

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, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an 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 written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

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

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

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

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 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 such 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 such assignment.

§ 13.3 WRITTEN NOTICE

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.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 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 there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 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 13.5.1, 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 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 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.

§ 13.5.4 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.

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

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

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

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, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

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 or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

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

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

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, 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.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

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. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein 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.

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

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an

additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.



DOCUMENT 000800 - SUPPLEMENTAL CONDITIONS

DRUG FREE WORK PLACE

1. During the performance of this contract, the contractor agrees to:
 - a. Provide a drug-free work place for the contractor's employees,
 - b. Post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession or use of a controlled substance or marijuana is prohibited in the contractor's work place and specifying the actions that will be taken against employees for violations of such prohibition,
 - c. State in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free work place,
 - d. Include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10, 000 so that the provisions will be binding upon each subcontractor or vendor.

NONDISCRIMINATION

1. During the performance of this contract, the contractor agrees as follows:
 - a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
 - b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
 - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
2. The contractor will include the provisions of the foregoing paragraphs a, b and c in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
3. Suffolk Public Schools does not discriminate against faith-based organizations.

CONTRACTOR/EMPLOYEE BACKGROUND CERTIFICATION

1. Upon award, the contractor and any employee who will have direct contact with students shall provide certification that (i) he has not been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; and (ii) whether he has been convicted of a crime of moral turpitude.

Any person making a materially false statement regarding such offense shall be guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services. **(See Attachment 1)**

COMPLIANCE WITH FEDERAL IMMIGRATION LAW

The successful bidder shall not, during the performance of a contract for goods and services in the Commonwealth of Virginia knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986

SUSPENSION AND DISBARMENT

In submitting your bid, you are certifying that the bidder has not been disbarred at the federal, state, or local levels and are eligible for award of a contract.

The Vendor certifies that neither the Vendor or its principals; the sub-recipients or their principals; or the subcontractors or their principals are suspended, debarred, proposed for debarment, voluntarily excluded from covered transactions, or otherwise disqualified by any federal department or agency from doing business with the Federal government pursuant to Executive Orders 12549 and 12689. The Vendor specifically covenants that neither the Vendor nor its principals; the subcontractors or their principals; nor the sub-recipients or their principals are included on the Excluded Parties List System maintained by the General Services Administration or the debarment and suspension list kept on file by EVA. By responding to this solicitation, the Vendor is certifying they are in "Good Standing". **(Attachment 2).**

CONTRACTOR/EMPLOYEE BACKGROUND CERTIFICATION

Pursuant to Virginia Code Section 22.1-296.1.C, prior to the award of a contract for the provision of services that require the contractor or any of its employees to have direct contact with students, the school board is required to have the contractor, and when relevant, any employee who will have direct contact with students, provide certification that (i) he has not been convicted of any violent felony as set forth in the definition of a barrier crime in Virginia Code 19.2-392.02, or any offense involving the sexual molestation or physical or sexual abuse or rape of a child.

The School Board may award a contract for the provision of services that require the contractor or employees of the contractor to have direct contact with students on school property during regular school hours or during school-sponsored activities when any individual who provides such services has been convicted of any felony or crime of moral turpitude that is not set forth in the definition of barrier crime in subsection A of Virginia Code 19.2-392.02 and does not involve sexual molestation, physical or sexual abuse, or rape of a child, provided that in the case of a felony conviction, the Governor has restored the individual's civil rights.

So as not to place an undue burden or hardship on the day to day operation of the school division and remain in compliance with the aforementioned Code provision, any contractor providing services for Suffolk Public Schools, whose employees will have direct contact with students, is required to provide the certification listed below:

As a contractor providing services for Suffolk Public Schools, whose employees will have direct contact with students, I certify that neither the contractor nor any of its employees, whether current employees or those who will be employed in the future, have been (i) convicted of a felony as set forth in the definition of a barrier crime or any offense involving the sexual molestation or physical or sexual abuse or rape of a child and/or meet the terms as outlined above:

CONTRACTOR NAME _____

BUSINESS ADDRESS _____

PHONE NUMBER _____

CERTIFIED BY _____

PRINTED NAME _____

TITLE _____

DATE _____

Any person making a materially false statement regarding any such offense shall be guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services. School boards shall not be liable for materially false statements regarding the certifications required by this subsection. For the purposes of this subsection, "direct contact with students" means being in the presence of students during regular school hours or during school-sponsored activities

ATTACHMENT 2: SUSPENSION AND DISBARMENT

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989, **Federal Register** (Pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency offering the proposed covered transaction.

(Before completing certification, read instructions on Page 2)

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (*Federal, State or Local*) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (*Federal, State or Local*) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) have not within a three-year period preceding this application/proposal had one or more public transactions (*Federal, State or Local*) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

ORGANIZATION NAME	PR/AWARD NUMBER OR PROJECT NAME
NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
SIGNATURE	DATE (MM-DD-YYYY)

END OF DOCUMENT 000800

THIS PAGE INTENTIONALLY LEFT BLANK

DRAFT AIA® Document A305™ – 1986

Contractor's Qualification Statement

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: « »

ADDRESS: « »

SUBMITTED BY: « »

NAME: « »

ADDRESS: « »

PRINCIPAL OFFICE: « »

[« »] Corporation

[« »] Partnership

[« »] Individual

[« »] Joint Venture

[« »] Other « »

NAME OF PROJECT: (if applicable) «BLANK»

TYPE OF WORK: (file separate form for each Classification of Work)

[« »] General Construction

[« »] HVAC

[« »] Electrical

[« »] Plumbing

[« »] Other: (Specify) « »

§ 1 ORGANIZATION

§ 1.1 How many years has your organization been in business as a Contractor? « »

§ 1.2 How many years has your organization been in business under its present business name? « »

§ 1.2.1 Under what other or former names has your organization operated?

« »

§ 1.3 If your organization is a corporation, answer the following:

§ 1.3.1 Date of incorporation: « »

§ 1.3.2 State of incorporation: « »

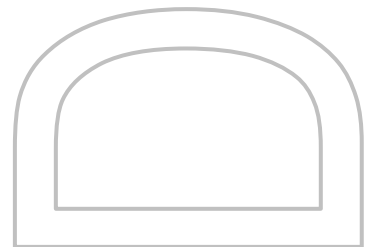
§ 1.3.3 President's name: « »

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.

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

This form is approved and recommended by the American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by AIA or AGC.



ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

§ 1.3.4 Vice-president's name(s)

« »

§ 1.3.5 Secretary's name: « »

§ 1.3.6 Treasurer's name: « »

§ 1.4 If your organization is a partnership, answer the following:

§ 1.4.1 Date of organization: « »

§ 1.4.2 Type of partnership (if applicable): « »

§ 1.4.3 Name(s) of general partner(s)

« »

§ 1.5 If your organization is individually owned, answer the following:

§ 1.5.1 Date of organization: « »

§ 1.5.2 Name of owner:

« »

§ 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

« »

§ 2 LICENSING

§ 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

« »

§ 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

« »

§ 3 EXPERIENCE

§ 3.1 List the categories of work that your organization normally performs with its own forces.

« »

§ 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

§ 3.2.1 Has your organization ever failed to complete any work awarded to it?

« »

§ 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

« »

§ 3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

« »

§ 3.3 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.)

<< >>

§ 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

<< >>

§ 3.4.1 State total worth of work in progress and under contract:

<< >>

§ 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

<< >>

§ 3.5.1 State average annual amount of construction work performed during the past five years:

<< >>

§ 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

<< >>

§ 4 REFERENCES

§ 4.1 Trade References:

<< >>

§ 4.2 Bank References:

<< >>

§ 4.3 Surety:

§ 4.3.1 Name of bonding company:

<< >>

§ 4.3.2 Name and address of agent:

<< >>

§ 5 FINANCING

§ 5.1 Financial Statement.

§ 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

« »

§ 5.1.3 Is the attached financial statement for the identical organization named on page one?

« »

§ 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

« »

§ 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

« »

§ 6 SIGNATURE

§ 6.1 Dated at this « » day of « » « »

Name of Organization: « »

By: « »

Title: « »

§ 6.2

« »

M « » 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 Expires: « »

DOCUMENT 000860 - PRE-BID QUESTION FORM

PRE-BID QUESTION FORM

To: Mr. Anthony Hinds, Purchasing Manager
CC: Mr. Doug Cofer, Project Manager, RRMM Architects

anthonyhinds@spsk12.net
dcofer@rrmm.com

Re: SECEP Renovations at JFK Middle School

Date Submitted: _____

Relevant Drawings and Specifications:

Clarification Requested:

(Company Name)

(Sender's Name)

(Fax No.)

(Signature)

Reply:

(Signature)

(Date)

(Title)

END OF DOCUMENT 000860

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 003126 - EXISTING HAZARDOUS MATERIAL INFORMATION

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

- A. This Document with its referenced attachment(s) is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.
- B. Suspected existing hazardous materials include, but are not limited to, the following:
 - 1. Vinyl asbestos tile (VAT) in areas indicated on the drawings.
- C. New finishes shall fully encapsulate existing vinyl asbestos tile (VAT). Do not disturb existing VAT in any way.
- D. Contact architect immediately if suspected hazardous materials are found that are not indicated on the drawings.
- E. Refer to Attachment #1 "AHERA 3-Year Reinspection 2019" for additional information.

END OF SECTION 003126

THIS PAGE INTENTIONALLY LEFT BLANK

ATTACHMENT #1

AHERA 3-YEAR REINSPECTION 2019

FOR

JOHN F. KENNEDY MIDDLE SCHOOL AND
TECHNOLOGY CENTER

AHERA 3-YEAR REINSPECTION 2019

for

John F. Kennedy Middle School and Technology Center
2325 East Washington Street • Suffolk • Virginia 23434

Suffolk County Public Schools



Marine Chemist Service, Inc.

11850 Tug Boat Lane, Newport News, VA 23606-2527

Phone: (757) 873-0933 • Fax: (757) 873-1074

www.MarineChemist.com



Marine Chemist Service, Inc.

AHERA REINSPECTION

FOR

JOHN F. KENNEDY MIDDLE SCHOOL AND TECHNOLOGY CENTER

(2019)



TABLE OF CONTENTS

SECTION 1	-----	Introduction
SECTION 2	-----	Credentials
SECTION 3	-----	Reassessment Criteria
SECTION 4	-----	Reassessment Checklists
SECTION 5	-----	Recommendations
SECTION 6	-----	Comments
SECTION 7	-----	Floor Plans
SECTION 8	-----	Assessment Forms
SECTION 9	-----	Removal Priorities and Summary
SECTION 10	-----	Blank Checklists for Periodic Surveillance
SECTION 11	-----	Abbreviations for ACBM and Areas
SECTION 12	-----	Abatement and Sampling Records



Marine Chemist Service, Inc.

SECTION 1

INTRODUCTION



INTRODUCTION

Under the Asbestos Hazard Emergency Response Act (AHERA 40 CFR Part 763), school buildings must be reinspected for asbestos every three years. The necessary components of an AHERA reinspection require the accredited inspector to visually inspect and reassess the condition of all known or assumed friable asbestos-containing building materials (ACBM); to visually inspect previously considered non-friable ACBM and to touch it to determine if it has become friable; to identify homogeneous areas of material that have become friable since the last inspection; and to develop required records and submit such records to the LEA's designated person within 30 days of reinspection. In accordance with AHERA Section 763.85 (b) (3) (vii), records must include:

- The date of the reinspection, the name and signature of the person making the reinspection, state of accreditation (license) and accreditation number.
- Any changes in the condition of known or assumed ACBM.
- The exact locations where samples were collected during the reinspection, a description of the manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, state of accreditation (license) and accreditation number.
- Any assessments or reassessments made of friable material, the name and signature of the accredited inspector making the assessments, state of accreditation (license), and accreditation number.

The inspector must classify and give reasons in the written assessment for classifying the ACBM and suspected ACBM assumed to be ACM in the school building into one of the following categories:

- 1) Damaged or significantly damaged thermal system insulation ACM.
- 2) Damaged friable surfacing ACM.
- 3) Significantly damaged friable surfacing ACM.
- 4) Damaged or significantly damaged friable miscellaneous ACM.
- 5) ACBM with potential for damage.
- 6) ACBM with potential for significant damage.
- 7) Any remaining friable ACBM or friable suspected ACBM.

Assessments include the following considerations:

- 1) Location and the amount of material, both in total quantity and as a percentage of the functional space.
- 2) Condition of the material, specifically:
 - a) Type of damage
 - b) Severity of damage
 - c) Extent or spread of damage over large areas or large percentages of the homogeneous area.
- 3) Whether the material is accessible.



- 4) The material's potential for disturbance.
- 5) Known or suspected causes of damage (e.g. air erosion, vandalism, vibration, water).
- 6) Preventive measures which might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.

It is not required by regulation but strongly recommended by EPA that overlooked ACBM or unaccounted for building areas from the original inspection be included in the reinspection, assessment and documentation. As a result of an EPA sponsored AHERA evaluation study and various enforcement activities, it was discovered that, in the original inspection, certain categories of building materials were considered non-suspect for asbestos or missed by inspectors and not included in the management plan. Inspectors conducting reinspection must ensure that materials such as ceiling tile, wallboard, plaster walls, linoleum, fire doors, duct insulation, dry wall mud and vibration cloth, which are considered suspect ACBM, are identified and included in the management plan.

The regulations regarding reinspection impose no requirement beyond inspecting the materials and areas covered in the original inspection, plus any additional materials discovered subsequent to the original inspection. EPA strongly recommends that the reinspection be thorough so that any deficiencies in the original inspection will be addressed in the reinspection. Any actual or assumed ACBM not previously identified that is discovered during the reinspection (or periodic surveillance) should be included in an update to the management plan. The update must include a management planner's recommendations for appropriate response actions based on an accredited inspector's assessment.



Marine Chemist Service, Inc.

SECTION 2

CREDENTIALS



Marine Chemist Service, Inc.

CREDENTIALS

In accordance with the AHERA regulations and EPA recommendations, a reinspection was performed on John F. Kennedy Middle School on August 10, 2019, and the Technology Center on October 1, 2019.

The survey contractor for the reinspection of John F. Kennedy Middle School and Technology Center was:

Marine Chemist Service, Inc.
11850 Tug Boat Lane
Newport News, VA 23606

The Virginia licensed Asbestos Inspector, who physically inspected the facility, assessed all friable and non-friable asbestos-containing materials and provided recommendations for appropriate response actions for updating the management plan was:

Jessica Honstetter
Virginia Asbestos Inspector License #3303004391

Tiffany Turner
Virginia Asbestos Inspector License #3303004542

Caroline Behrman
Virginia Asbestos Inspector License #3303004546

The team leader responsible for quality control coordination of the reinspection and adherence to reinspection requirement and EPA recommendations was:

Patrick Studley, CIH #11321
Virginia Asbestos Management Planner License #3304001570
Marine Chemist Service, Inc.
11850 Tug Boat Lane
Newport News, Virginia 23606



Marine Chemist Service, Inc.

COMMONWEALTH of VIRGINIA Department of Professional and Occupational Regulation 9960 Mayland Drive, Suite 400, Richmond, VA 23233 Telephone: (804) 367-8500		
EXPIRES ON 05-31-2020		NUMBER 3303004391
BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS ASBESTOS INSPECTOR LICENSE		
	JESSICA AARON HONSTETTER	
Status can be verified at http://www.dpor.virginia.gov		
(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)		
DPOR-LIC (02/2017)		

Name	TURNER, TIFFANY ANNE
License Number	3303004542
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	CHESAPEAKE, VA 23320-0000
Initial Certification Date	2019-06-28
Expiration Date	2020-06-30

The license information in this application was last updated at Tue Jul 02 02:50:18 EDT

COMMONWEALTH of VIRGINIA Department of Professional and Occupational Regulation 9960 Mayland Drive, Suite 400, Richmond, VA 23233 Telephone: (804) 367-8500		
EXPIRES ON 06-30-2020		NUMBER 3303004546
BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS ASBESTOS INSPECTOR LICENSE		
	CAROLINE SUE BEHRMAN	
Status can be verified at http://www.dpor.virginia.gov		
(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)		
DPOR-LIC (02/2017)		

COMMONWEALTH of VIRGINIA Department of Professional and Occupational Regulation 9960 Mayland Drive, Suite 400, Richmond, VA 23233 Telephone: (804) 367-8500		
EXPIRES ON 10-31-2019		NUMBER 3304001570
BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS ASBESTOS MANAGEMENT PLANNER LICENSE		
	PATRICK GENE STUDLEY	
Status can be verified at http://www.dpor.virginia.gov		
(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)		
DPOR-LIC (02/2017)		



american board of industrial hygiene®

**organized to improve the practice of industrial hygiene
proclaims that**

Patrick Gene Studley

**having met all requirements of
education, experience and examination,
is hereby certified in the**

**COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE**

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH



Certificate Number 11321 CP

Awarded: May 31, 2017

Expiration Date: December 1, 2022


Chair, ABIH


Chief Executive Officer, ABIH



Marine Chemist Service, Inc.

SECTION 3

REASSESSMENT CRITERIA



REASSESSMENT CRITERIA

The AHERA reassessment criteria require that the inspector classify and give reasons in the written assessment for classifying the ACBM and suspected ACBM into one of the following categories:

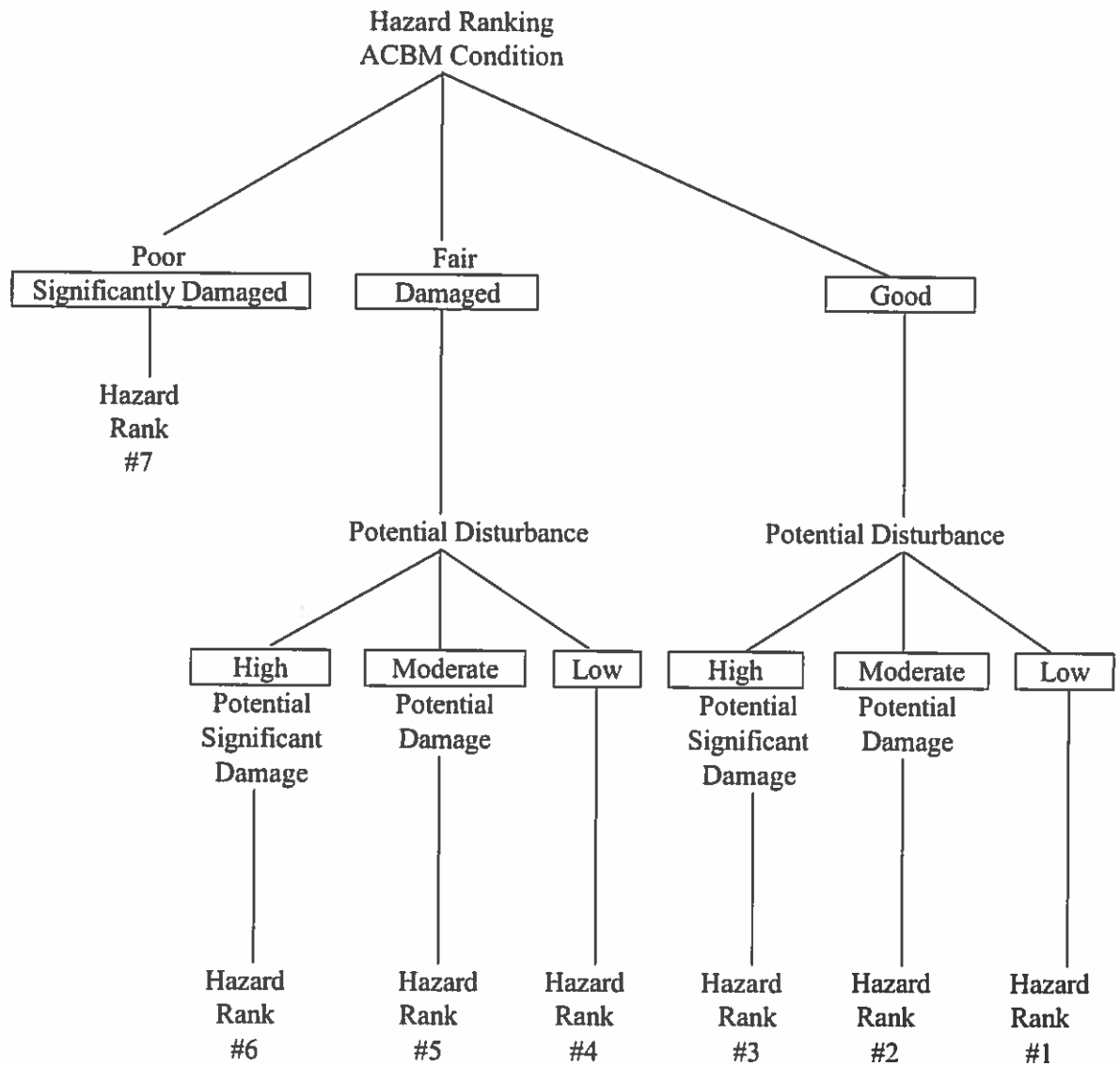
- 1) Damaged or significantly damaged thermal system insulation ACBM.
- 2) Damaged friable surfacing ACBM.
- 3) Significantly damaged friable surfacing ACBM.
- 4) Damaged or significantly damaged friable miscellaneous ACBM.
- 5) ACBM with potential for damage.
- 6) ACBM with potential for significant damage.
- 7) Any remaining friable ACBM or friable suspected ACBM.

Assessments include the following considerations:

- 1) Location and the amount of material, both in total quantity and as a percentage of the functional space.
- 2) Condition of the material, specifically:
 - a) Type of damage
 - b) Severity of damage
 - c) Extent or spread of damage over large areas or large percentages of the homogeneous area.
- 3) Whether the material is accessible.
- 4) The material's potential for disturbance.
- 5) Known or suspected causes of damage (e.g. air erosion, vandalism, vibration, water).
- 6) Preventive measures which might eliminate the reasonable likelihood of undamaged ACBM from becoming significantly damaged.

SUMMARY OF HAZARD ASSESSMENT

Hazard Rank	Removal Priority	AHERA Definition
7	1	Significantly Damaged
6	2	Damaged & potentially significantly damaged
5	3	Damaged & potentially damaged
4	4	Damaged
3	5	Potentially significant damaged
2	6	Potentially damaged
1	7	-----





Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

*no change

Room/Location	ACBM	X	Comments
Room 101 and 102	9" Floor Tile and Adhesive, Tan with Brown	X	(10) Missing; 5% distributed physical damage
Room 103	9" Floor Tile and Adhesive, Tan with Brown		(24) Patches; (62) 12" White Patches
Room 104	9" Floor Tile and Adhesive, Tan with Brown		(40) Patches
Room 105 and 106	9" Floor Tile and Adhesive, Tan with Brown		(0) Missing
Girls' Restroom	Floor Tile and Adhesive	X	Not found
Boy's Restroom	Floor Tile and Adhesive	X	Not found
Library	Floor Tile and Adhesive, Tan with Brown, under carpet	X	Assumed intact, under carpet
Library Skylight	Window Panels	X	5% distributed physical damage
Library - Workroom Office	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Library - Speech/ Reference Office	9" Floor Tile and Adhesive, Tan with Brown	X	Intact
Library - Office	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Library - Preview Room #2	9" Floor Tile and Adhesive, Tan with Brown	X	Not accessible
Library - Preview Room #1	9" Floor Tile and Adhesive, Tan with Brown	X	5% distributed physical damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

Room/Location	ACBM	^{*no change} X	Comments
Library - Testing Room	Floor Tile and Adhesive, under carpet	X	Not accessible
Chorus - Music Room	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Chorus - Music Room	1' Ceiling Tile and Adhesive	X	2% distributed physical damage 5% distributed water damage
Chorus - Practice Room (1)	9" Floor Tile and Adhesive, Brown with White		Carpet observed; floor tile assumed intact
Chorus - Supply Room	No Access		Carpet observed; floor tile assumed intact
Chorus - Music Office	Floor Tile and Adhesive, under carpet		Carpet observed; floor tile assumed intact
Practice Room 3 (Formerly Chorus-Music Office)	Floor Tile and Adhesive, under carpet		Carpet observed; floor tile assumed intact
Room 107	9" Floor Tile and Adhesive, Brown with White	X	10% localized physical damage and water damage
Room 107	12" Floor Tile and Adhesive, White and Beige	X	(25%) patched
Room 108	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Prep Room, by 108	9" Floor Tile and Adhesive, Tan with Brown		No floor tile observed
Prep Room, by 108	Countertops	X	Wooden Countertops
Room 109	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

		*no change	
Room/Location	ACBM	X	Comments
Band Room	Drywall and Mud	X	5% distriubed physical damage
Band Office	9" Floor Tile and Adhesive, Beige with White	X	5% distriubed physical damage
Hallway outside Room 110	9" Floor Tile and Adhesive, Beige with White	X	(6) patched; 8% distributed physical damage
Room 110	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Room 111	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Tech Lab - General Office (Formerly Shop Lab General Office)	9" Floor Tile and Adhesive, Tan with White, under carpet		No carpet
Tech Lab - General Office	Drywall and Mud		Not accessible
Tech Lab - Tools	Drywall and Mud		Not accessible
Tech Lab - Finishing Room	Drywall and Mud		Not accessible
Tech Lab - Storage	Drywall and Mud		Not accessible
Hallways	Terrazzo	X	<1% distributed physical damage
Women's Restroom	Plaster Ceiling	X	Not found
Auditorium	Plaster Ceiling	X	Intact

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

Room/Location	ACBM	*no change	
		X	Comments
Auditorium	Ceiling Tile and Adhesive	X	2% localized water damage
Auditorium	Vibration Duct Cloth	X	Intact
Clinic	9" Floor Tile and Adhesive, Tan with Brown		12" White Floor Tile observed intact
Clinic Storage	Mudded Fittings (7)	X	Intact
Kitchen	9" Floor Tile and Adhesive, Tan with Brown	X	1% distributed physical damage
Closet	9" Floor Tile and Adhesive, Tan with Brown	X	Not accessible
Clinic-Waiting Area	9" Floor Tile and Adhesive, Tan with Brown		Observed 12" Floor Tile and Adhesive, White, intact
Vault	9" Floor Tile and Adhesive, Tan with Brown	X	Intact
Room 310	9" Floor Tile and Adhesive, Brown	X	5% distributed physical damage
Storage, by Room 310	Mudded Fittings (6)	X	Intact
Room 311	9" Floor Tile and Adhesive, Tan with Brown	X	2% distributed physical damage
Room 312	9" Floor Tile and Adhesive, Beige with White	X	Not accessible
Room 313	9" Floor Tile and Adhesive, Tan with Brown	X	2% distributed physical damage, 5% distributed water damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

Room/Location		ACBM	^{*no change} X	Comments
Room 314	9" Floor Tile and Adhesive, Tan with White		X	3% distributed physical damage
Room 315	9" Floor Tile and Adhesive, Beige with White		X	(10) missing; 2% distributed physical damage, 10% distributed water damage
Room 316	9" Floor Tile and Adhesive, Beige with White		X	3% distributed physical damage
Room 317	9" Floor Tile and Adhesive, Beige with White		X	2% distributed physical damage
Room 318	9" Floor Tile and Adhesive, Beige with White			10% distributed physical damage
Room 319	9" Floor Tile and Adhesive, Beige with White		X	7% distributed physical damage
Room 321	9" Floor Tile and Adhesive, Tan with Brown			5% distributed physical damage
Room 322	9" Floor Tile and Adhesive, Beige with White		X	2% distributed physical damage
Room 401	9" Floor Tile and Adhesive, Beige with White		X	<1% distributed physical damage
Conference Room (Formerly Work Room)	Floor Tile and Adhesive, under carpet		X	Assumed intact, under carpet
Vending Area	12" Floor Tile and Adhesive, Beige with Brown		X	<1% distributed physical damage
Room 402	Floor Tile and Adhesive, Tan with Brown		X	Intact
Room 201	9" Floor Tile and Adhesive, Tan with Black			(10%) of tile patched; 2% damaged

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

Room/Location	ACBM	*no change	
		X	Comments
Room 202	9" Floor Tile and Adhesive, Tan with White		(9) Tiles Patched
Room 203	12" Floor Tile and Adhesive, Grey	X	Intact
Prep Room, by 203	12" Floor Tile and Adhesive, Grey	X	Intact
Prep Room, by 203	Countertops	X	1% distributed physical damage
Room 204	9" Floor Tile and Adhesive, Beige with White		2% localized physical damage
Room 205	9" Floor Tile and Adhesive, Tan with Brown	X	2% distributed physical damage
Room 205	Countertops	X	Intact
Room 206	9" Floor Tile and Adhesive, Beige with White		(7) Tiles Patched
Supplies	9" Floor Tile and Adhesive, Beige with White		2% physical damage
Room 207	9" Floor Tile and Adhesive, Tan with Brown	X	2% distributed physical damage
Prep Room, by 207	9" Floor Tile and Adhesive, Tan with Brown		Not accessible
Prep Room, by 207	Countertops		Not accessible
Room 301	9" Floor Tile and Adhesive, Tan with Brown	X	5% distriubed physical damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

Room/Location	ACBM	*no change	
		X	Comments
Room 301	Countertops		Intact
Storage, by 301	Roof Drain Mud		Not accessible
Storage, by 301	9" Floor Tile and Adhesive, Tan with Brown		Not accessible
Room 302	9" Floor Tile and Adhesive, Tan with Brown		3% physical damage
Room 303	9" Floor Tile and Adhesive, Tan with Brown	X	1% localized physical damage
Room 304	9" Floor Tile and Adhesive, Tan with Brown		(25%) patched
Room 305	9" Floor Tile and Adhesive, Tan with Brown	X	2% distributed physical damage
Room 306	9" Floor Tile and Adhesive, Tan with Brown		Not accessible
Room 307	9" Floor Tile and Adhesive, Tan with Brown		3% localized physical damage
Room 308	9" Floor Tile and Adhesive, Tan with Brown		2% localized physical damage
Room 309	9" Floor Tile and Adhesive, Tan with Brown		(50% Patched); 3% physical damage
Room 501	9" Floor Tile and Adhesive, Tan with Brown		(38) Patched; 15% physical and water damage
Room 502	9" Floor Tile and Adhesive, Tan with Brown	X	<1% distributed physical damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

		*no change	
Room/Location	ACBM	X	Comments
Room 601	9" Floor Tile and Adhesive, Brown	X	(18) Patched, 50% distributed physical damage
Room 601 Prep	9" Floor Tile and Adhesive, Brown	X	50% divots
Room 601 Office	9" Floor Tile and Adhesive, Brown	X	50% divots
Room 601 Storeroom	9" Floor Tile and Adhesive, Brown	X	Intact
Room 602	9" Floor Tile and Adhesive, Brown	X	<1% distributed physical damage
Room 603	9" Floor Tile and Adhesive, Brown	X	50% divots
Room 604	9" Floor Tile and Adhesive, Brown	X	3% distributed physical damage
Room 604	Countertops	X	5% distributed physical damage
Work Room	9" Floor Tile and Adhesive, Tan with Brown		Not accessible
Work Room	Mudded Fittings (5)		Not accessible
Room 605/607	9" Floor Tile and Adhesive, Beige with White		(28) Patched
Room 605/607	Drywall and Mud	X	Not found
Room 606	9" Floor Tile and Adhesive, Brown	X	<1% distributed physical damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

*no change

Room/Location	ACBM	X	Comments
Room 606	Countertops	X	1% distributed physical damage
Room 606 Passthrough	9" Floor Tile and Adhesive, Brown	X	5% distriubed physical damage
Room 608	9" Floor Tile and Adhesive, Brown	X	(20%) divots, distributed
Room 609	9" Floor Tile and Adhesive, Brown	X	(14) Patched, (1) Missing; 5% distributed physical damage
Room 610	9" Floor Tile and Adhesive, Brown	X	1% distributed physical damage
Storage Room 4	No Access	X	Not accessible
Room 701	9" Floor Tile and Adhesive, Brown	X	1% distributed physical damage
Room 702	9" Floor Tile and Adhesive, Brown		(12) Patched
Room 703	9" Floor Tile and Adhesive, Brown	X	<1% distributed physical damage
Room 704	9" Floor Tile and Adhesive, Brown	X	(21) Patched, beige; 3% distributed physical damage
Room 704	Drywall and Mud	X	Not found
Room 705	9" Floor Tile and Adhesive, Brown	X	5% distriubed physical damage
Room 706	9" Floor Tile and Adhesive, Beige with White	X	10% distributed physical and localized damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

*no change

Room/Location	ACBM	X	Comments
Arts and Crafts Room	No Access	X	No access
Custodial Closet	Mudded Fittings	X	Intact
Gym	Vibration Duct Cloth	X	Intact
Home Economics	Floor Tile and Adhesive, under carpet	X	Assumed intact, under carpet
Old Kitchen Area (Boy's and Girl's Club)	9" Floor Tile and Adhesive, Tan with Brown		Not accessible
Linen #2	9" Floor Tile and Adhesive, Tan with Brown		Not found
Storage, by Linen #2	Mudded Fittings (20)		Not found
Linen #1	9" Floor Tile and Adhesive, Tan with Brown		Not found
Home Economics Kitchen 1	12" Floor Tile and Adhesive, Blue	X	Intact
Cafeteria	Terrazzo	X	<1% distributed physical damage
Cafeteria (Exit Door)	Transite Panels	X	Intact
Cafeteria	Drywall and Mud	X	Intact
Cafeteria	Duct Insulation Sealer	X	Intact

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Jessica Honstetter/ Tiffany Turner

Date: 8/7/2019

Room/Location		ACBM	*no change X	Comments
Kitchen, ceiling	Plaster Ceiling		X	<1% localized physical damage
Kitchen Office	9" Floor Tile and Adhesive, Tan with White		X	Not accessible
Kitchen Utility Closet	Mudded Elbows (10)			Not accessible
Storage, by kitchen utility closet	Light Fixture Insulation		X	Not accessible
Throughout the Building	Fire Door Insulation		X	Intact
Throughout the Building	Blackboard and Adhesive		X	Intact
Throughout the Building	Roof Drain Mud		X	Intact
Gym and Auditorium Overhang	Transite Panels		X	Intact
Throughout the Building	Window Caulking		X	Intact
Dietician's Office	9" Floor Tile and Adhesive		X	<1% distributed physical damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Technology Center

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Caroline Behrman

Date: 10/1/2019

Room/Location		ACBM	*no change X	Comments
Hallway	Terrazzo		X	Intact
Front Office	12" Floor Tile and Adhesive, Beige with Brown			Replaced with Blue Carpet in 2017
Front Right Office	12" Floor Tile and Adhesive, Beige with Brown			Replaced with Blue Carpet in 2017
Right Rear Office	12" Floor Tile and Adhesive, Beige with Brown			Replaced with Blue Carpet in 2017
Left Rear Office	12" Floor Tile and Adhesive, Beige with Brown			Replaced with Blue Carpet in 2017
Hallway with Conference Room	12" Floor Tile and Adhesive, Beige with Brown			Replaced with Blue Carpet in 2017
Closets	12" Floor Tile and Adhesive, Beige with Brown		X	Intact
Closets	Light Fixture Insulation (1)		X	Not found
Office Conference Room	12" Floor Tile and Adhesive, Green and Beige			Replaced with Blue Carpet in 2017
Lab/ Conference Room	12" Floor Tile and Adhesive, Green and Beige			Replaced with Blue Carpet in 2017
Storage	12" Floor Tile and Adhesive, Beige with Brown		X	Intact
Lunch Room	12" Floor Tile and Adhesive, Beige with Brown			Replaced with 12" Floor Tile, White
Offices and Hallway in Old Classroom Area	12" Floor Tile and Adhesive, Beige with Brown			Replaced with 12" Floor Tile, White
Large Storage (Old Kitchen Area)	Plaster		X	35% distributed physical damage

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Technology Center

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Inspectors: Caroline Behrman

Date: 10/1/2019

**no change*

Room/Location	ACBM	X	Comments
Throughout Building	Window Caulking	X	Intact
Throughout Building	Window Glazing	X	Intact

* X = No Change from Last Inspection

Checklist



Marine Chemist Service, Inc.

SECTION 5

RECOMMENDATIONS



Marine Chemist Service, Inc.

RECOMMENDATIONS

The following recommendations are based on material type, condition, future usage, etc. for asbestos-containing materials (ACBM)
John F. Kennedy Middle School, Main Building

ACBM	LOCATION	RECOMMENDATION
Carpet Adhesive (CA)	Chorus - Supply Room	Continue to maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.
Ceiling Tile and Adhesive (CTA)	Chorus - Music Room and Auditorium	Maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACMB is removed. All work must conform to 20 CFR 1926.1101.
Expansion Ducts and Vibration Dampers (DD)	Auditorium and Gym	Continue to maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.
Duct Sealer (DS)	Cafeteria	Continue to maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.
Drywall and Mud (DWM)	Band Room and Cafeteria, Tech Lab - Tools, Finishing Room, General Office and Storage	Maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACMB is removed. All work must conform to 20 CFR 1926.1101.
Fire Doors (FD)	Throughout the Building	Continue to maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.
Floor Tile and Adhesive (FTA)	Classrooms, Library, Clinic, Conference Room, Offices, Hallway, Vault, Supplies, Storeroom, Vending Area and Kitchen, Room 601, Room 601 Office, 601 Prep and Room 603, Library- Preview and Testing Room, Room 312, Prep Room by 207, Room 306, Work Room, Kitchen Office, Closet, Storage by 301 and Old Kitchen Area	Maintain the non-friable material intact & in good condition by encapsulation (periodic manual cleaning & waxing for an airtight seal). No activity permitted (grinding, sanding, etc.) that might render the material friable. Minimize water damage. Remove damaged floor tiles. All work must conform to 29 CFR 1926.1101.

**RECOMMENDATIONS**

The following recommendations are based on material type, condition, future usage, etc. for asbestos-containing materials (ACBM)
John F. Kennedy Middle School, Main Building

Laboratory Countertops (LC)	Prep Rooms- by 108 203 and 207; Room 205, 301, 604 and 606,	Maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.
Light Fixture Insulation (LFI)	Storage by Kitchen Utility Closet	Continue to maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACBM is removed. All work must conform to 29 CFR 1926.1101.
Mudded Materials (MM)	Clinic Storage, Storage by Room 310 and Custodial Closet, Work Room and Kitchen Utility Closet	Continue to maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACBM is removed. All work must conform to 29 CFR 1926.1101.
Plaster Material (PM)	Auditorium and Kitchen	Continue to maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACBM is removed. All work must conform to 29 CFR 1926.1101.
Roof Drain Mud	Throughout the Building and in Storage by 301	Continue to maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACBM is removed. All work must conform to 29 CFR 1926.1101.
Terrazzo (TE)	Hallways and Cafeteria	Continue to maintain the non-friable material intact & in good condition by encapsulation (periodic manual cleaning & waxing for an airtight seal). No activity permitted (grinding, sanding, etc.) that might render the material friable. Minimize water damage. Remove damaged flooring. All work must conform to 29 CFR 1926.1101.
Transite Material (TM)	Gym and Auditorium Overhang and Cafeteria Exit Door	Continue to maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.



Marine Chemist Service, Inc.

RECOMMENDATIONS

The following recommendations are based on material type, condition, future usage, etc. for asbestos-containing materials (ACBM)
John F. Kennedy Middle School, Main Building

Window Caulk and Glaze (WC)	Throughout the Building	No activity such as cutting or stripping should be performed as these actions will render these materials friable. Only qualified personnel should be permitted to work on these materials. Sufficient samples should be taken to verify the presence or absence of asbestos. If these materials do contain asbestos, all work should be performed in accordance to 29 CFR 1101.
Wall Mounting Adhesive (WMA)	Throughout the Building	Continue to maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.
Window Panels (WP)	Library Skylight	Maintain the material intact and in non-friable condition by avoiding any activity that would make the material friable until removed. No activity permitted (grinding, sanding, etc.) that might render the material friable. Sample material prior to any work to determine any asbestos content. All work must conform to 29 CFR 1926.1101.



Marine Chemist Service, Inc.

RECOMMENDATIONS

The following recommendations are based on material type, condition, future usage, etc. for asbestos-containing materials (ACBM)
John F. Kennedy Middle School, Technology Center

ACBM	LOCATION	RECOMMENDATION
Floor Tile and Adhesive (FTA)	Lab/Conference Room, Offices, Hallways, Closets/Storage and Lunch Room	Continue to maintain the non-friable material intact & in good condition by encapsulation (periodic manual cleaning & waxing for an airtight seal). No activity permitted (grinding, sanding, etc.) that might render the material friable. Minimize water damage. Remove damaged floor tiles. All work must conform to 29 CFR 1926.1101.
Plaster Material (PM)	Large Storage (Old Kitchen Area)	Maintain the material intact and in good condition. No activity should be performed on ACBM (grinding, sanding, drilling, etc.) that will release fibers and increase friability. If any work is planned, sampling should be performed to determine any asbestos content. Implement O & M until ACBM is removed. All work must conform to 29 CFR 1926.1101.
Terrazzo (TE)	Hallways	Continue to maintain the non-friable material intact & in good condition by encapsulation (periodic manual cleaning & waxing for an airtight seal). No activity permitted (grinding, sanding, etc.) that might render the material friable. Minimize water damage. Remove damaged flooring. All work must conform to 29 CFR 1926.1101.
Window Caulk and Glaze (WC)	Throughout the Building	No activity such as cutting or stripping should be performed as these actions will render these materials friable. Only qualified personnel should be permitted to work on these materials. Sufficient samples should be taken to verify the presence or absence of asbestos. If these materials do contain asbestos, all work should be performed in accordance to 29 CFR 1101.



Marine Chemist Service, Inc.

SECTION 6

COMMENTS



COMMENTS

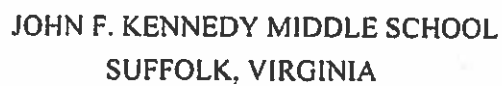
- 1) The AHERA reinspection of John F. Kennedy Middle School and Technology Center was an on-site visual assessment of asbestos-containing or assumed asbestos-containing materials based on documentation provided by Terry Napier of Suffolk County Schools. The replacement materials may still be listed as ACBM if records of the removal of any of these materials are incomplete. Following a thorough investigation of the building, any asbestos-containing materials listed in the provided documents that cannot be located will be reported as not found
- 2) Any renovation/demolition work which would disturb any known or suspect asbestos containing material should be planned by a Virginia licensed Asbestos Project Designer.
- 3) TSI on pipes and fittings found within wall cavities, pipe chases or areas that are inaccessible during AHERA reinspection, should be assumed to be asbestos containing until testing proves otherwise. All repair, renovation or demolition work that is scheduled and will expose cavities or chases with pipe insulation must conform to 29 CFR 1926.1101.
- 4) There are several materials in John F. Kennedy Middle School and Technology Center which are not covered by the AHERA Standard:
 - a) The window caulking/glazing is a suspect asbestos containing material. Since this material is located on the exterior of the building it does not fall under the AHERA Standard. If any renovation or demolition work is scheduled on the windows, the window caulking/glazing should be sampled to ensure that asbestos containing materials are not disturbed.
 - b) Roofing materials can contain asbestos fibers and if any work is scheduled to disturb this roofing material, then those roofing materials should be sampled to ensure proper handling techniques for any asbestos containing material.
- 5) John F. Kennedy Middle School's main building has 10% physical and/or water damage to the 9" Floor Tiles in the following rooms: 107, 315, 318, 501, 601, 601 Prep Room and Office, 603 and 706. There was 15% physical and water damage to the 9" Floor tiles in Room 501. In addition, there are 50% divots in the 9" Floor Tiles in rooms 601 Prep and Office as well as room 603.
- 6) The Technology Center has 35% damage to the plaster material in the large storage known as the old kitchen area.
- 7) John F. Kennedy Middle School and Technology Center's next AHERA reinspection is due by



Marine Chemist Service, Inc.

SECTION 7

FLOOR PLANS





Marine Chemist Service, Inc.

SECTION 8

ASSESSMENT FORMS



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 5 Location: Chorus Supply Room

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Carpet Adhesive (CA)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 0 %, Localized, Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: Accessible, X Inaccessible

Description:

Potential for Contact: High Moderate X Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type: _____

Comments:

Signature:  **Date:** 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1,6 **Location:** Chorus Music Room and Auditorium

Type of Suspect Material: Surfacing, TSI, X Other X Friable

Description: Ceiling Tile and Adhesive (CTA)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 2-5 %, X Localized, X Distributed

Type of Damage: Deterioration, X Water, X Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact: High Moderate X Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type:

Comments:

Signature: Joshua Kinsinger **Date:** 10/21/2019

Date: 10/21/2019



Marine Chemist Service, Inc.

RECORDING FORM FOR ASSESSMENT DATA

School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 6 **Location:** Auditorium and Gym

Type of Suspect Material: ☐ Surfacing, ☐ TSI, ☒ Other ☐ Friable

Description: Vibration Duct Cloth (DD)

Approximate Amount of Material (linear or square feet): _____

Condition:

Percent Damaged: 0 %, ☐ Localized, ☐ Distributed

Type of Damage: ☐ Deterioration, ☐ Water, ☐ Physical

Description: _____

Overall Rating: ☒ Good ☐ Fair ☐ Poor

Potential for Disturbance:

Accessibility: ☒ Accessible, ☐ Inaccessible

Description: _____

Potential for Contact: ☐ High ☐ Moderate ☒ Low

Description: _____

Influence of Vibration: ☐ High ☐ Moderate ☒ Low

Description: _____

Potential for Air Erosion: ☐ High ☐ Moderate ☒ Low

Description: _____

Located in a Plenum? ☐ Yes ☒ No **Type:** _____

Comments:

Signature: Jessica Kinsler **Date:** 10/21/2019



School: John F. Kennedy Middle School, Main Building

Functional Area No.: 7 Location: Cafeteria

Description: Duct Sealer (DS)

Percent Damaged: 0 %, Localized, Distributed

Description: _____

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact: High Moderate X Low

Description: _____

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes ☒ No Type: _____

Comments:

Signature:  **Date:** 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 3 **Location:** Band Room and Cafeteria

Type of Suspect Material: Surfacing, TSI, X Other X Friable

Description: Drywall and Mud (DWM)

Approximate Amount of Material (linear or square feet):

Condition:

Percent Damaged: 5 %, Localized, ☒ Distributed

Type of Damage: Deterioration, Water, X Physical

Description:

Overall Rating: X Good Fair Poor

Potential for Disturbance:

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type:

Comments: The drywall and mud was not found in rooms 605/607 and 704.

Signature:  **Date:** 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1, 3, 5 Tech Lab - Tools, Finishing Room, General Location: Office and Storage

Type of Suspect Material: Surfacing, TSI, ☒ Other ☒ Friable

Description: Drywall and Mud (DWM)

Approximate Amount of Material (linear or square feet):

Percent Damaged:	%	Localized,	Distributed

Type of Damage: Deterioration, Water, Physical

Description:

Overall Rating: Good Fair Poor

Accessibility: Accessible, X Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes X No Type:

Signature: Jessica Kinsler **Date:** 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 11 Location: Throughout the Building

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Fire Door (FD)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: 0 %, Localized, Distributed

Type of Damage: Deterioration, Water, Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact:	<u>X</u>	High	Moderate	Low

Description:

Influence of Vibration: High Moderate X Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type: _____

Signature: Jessica Kinsler Date: 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Classrooms, Library, Clinic, Conference Room, Offices, Hallway, Vault, Supplies,
Functional Area No.: 1, 3, 4, 5, 6, 7 Location: Storeroom, Vending Area and Kitchen

Type of Suspect Material: Surfacing, TSI, ☒ Other ☐ Friable

Description: Floor Tile and Adhesive (FTA)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: <1-20 %, X Localized, X Distributed

Type of Damage: Deterioration, X Water, X Physical

Description:

Overall Rating: Good X Fair Poor

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type: _____

Comments: The floor tile in the Girl's and Boy's Restroom, Linen 1 and 2 were not found.

Signature: **Date:** 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1 Room 601, Room 601 Office, 601 Prep and Location: Room 603

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Floor Tile and Adhesive (FTA)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 50 %, Localized, Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description: The above rooms have 50% divots.

Overall Rating: Good Fair X Poor

Accessibility: ☒ Accessible, ☐ Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description:

Influence of Vibration: High Moderate X Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☐ X No ☒ Type: _____

Comments: The floor tile in the Girl's and Boy's Restroom, Linen 1 and 2 were not found.

Signature: Jessica Kinsinger **Date:** 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1, 3, 5, 7 Location: 301 and Old Kitchen Area

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Floor Tile and Adhesive (FTA)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: _____%, _____ Localized, _____ Distributed

Type of Damage: Deterioration Water Physical

Description: _____

Overall Rating: Good Fair Poor

Accessibility: Accessible, **X** Inaccessible

Description: _____

Potential for Contact: X High Moderate Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes X No Type:

Signature: Jessica Kinsinger **Date:** 10/21/2019

Date: 10/21/2019



Marine Chemist Service, Inc.

RECORDING FORM FOR ASSESSMENT DATA

School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1 Location: Prep Rooms- by 108 and 203; Room 205, 301, 604 and 606

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Laboratory Countertops (LC)

Approximate Amount of Material (linear or square feet):

Condition:

Percent Damaged: 1-5 %, Localized, X Distributed

Type of Damage: Deterioration, Water, X Physical

Description:

Overall Rating: X Good Fair Poor

Potential for Disturbance:

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact: X High Moderate Low

Description:

Influence of Vibration: High Moderate X Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes X No Type:

Comments: The laboratory countertop in the prep room by 207 was not accessible.

Signature: Jessica Kinsler **Date:** 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 5 Location: Storage, by Kitchen Utility Closet

Type of Suspect Material: Surfacing, TSI, X Other X Friable

Description: Light Fixture Insulation (LFI)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: _____%, _____ Localized, _____ Distributed

Type of Damage: Deterioration, Water, Physical

Description:

Overall Rating: _____ Good Fair Poor

Accessibility: ☐ Accessible, ☒ Inaccessible

Description: _____

Potential for Contact: High Moderate X Low

Description: _____

Influence of Vibration: High Moderate X Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes X No Type: _____

Signature: Jessica Hernandez Date: 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.:	5	Clinic Storage, Storage by Room 310 and Location: Custodial Closet

Type of Suspect Material: Surfacing, X TSI, Other X Friable

Description: Muddled Materials (MM)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 0 %, Localized, Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact:	High	Moderate	X	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type: _____

Comments: The mudded materials in the Storage by Linen #2 were not found.

Signature: Jessica Kinsinger Date: 10/21/2019



Marine Chemist Service, Inc.

RECORDING FORM FOR ASSESSMENT DATA

School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1, 5 **Location:** Work Room and Kitchen Utility Closet

Type of Suspect Material: Surfacing, X TSI, Other X Friable

Description: **Muddled Materials (MM)**

Approximate Amount of Material (linear or square feet):

Condition:

Percent Damaged:	%,	Localized,	Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description:

Overall Rating:

Potential for Disturbance:

Accessibility: Accessible, X Inaccessible

Description:

Potential for Contact:	High	Moderate	X	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type: _____

Comments:

Signature:

Jessica Kinsler

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 6, 7 Location: Auditorium and Kitchen

Type of Suspect Material: X Surfacing, TSI, Other X Friable

Description: Plaster Material (PM)

Approximate Amount of Material (linear or square feet):

Percent Damaged: <1 %, X Localized, Distributed

Type of Damage: Deterioration, Water, ☒ Physical

Description: _____

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact: X High Moderate Low

Description: _____

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion:	High	Moderate	X	Low

Description:

Located in a Plenum? Yes X No Type:

Comments: The plaster material in the women's restroom was not found.

Signature: **Date:** 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 11 Location: Throughout the Building

Type of Suspect Material: Surfacing, X TSI, Other X Friable

Description: Roof Drain Mud (RDM)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 0 %, Localized, Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact:	High	Moderate	X	Low

Description:

Influence of Vibration: High Moderate X Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes ☒ No Type:

Comments: The roof drain mud in the storage by Room 301 was not accessible.

Signature: Jessica Keng Jee Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 4, 7 Location: Hallways and Cafeteria

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Terrazzo (TE)

Approximate Amount of Material (linear or square feet):

Percent Damaged: <1 %, Localized, ☒ Distributed

Type of Damage: Deterioration Water ☒ Physical

Description: _____

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact: X High Moderate Low

Description: _____

Influence of Vibration: High Moderate X Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes X No Type:

Signature: Jessica Kinsinger **Date:** 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Functional Area No.: 6, 7 Location: Gym and Auditorium Overhang, Cafeteria Exit Door

Description: Transite Material (TM)

Description: _____

Description: _____

Description: _____

Description: _____

Description: _____

Comments:

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 11 **Location:** Throughout the Building

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Window Caulk (WC)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 0 %, Localized, Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type:

Signature: **Date:** 10/21/2019

Date: 10/21/2019



Marine Chemist Service, Inc.

RECORDING FORM FOR ASSESSMENT DATA

School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 11 **Location:** Throughout the Building

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Wall Mounting Adhesive (WMA)

Approximate Amount of Material (linear or square feet):

Condition:

Percent Damaged:	%	Localized,	Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description: 

Overall Rating: ☐ Good ☐ Fair ☐ Poor

Potential for Disturbance:

Accessibility: Accessible, X Inaccessible

Description: _____

Potential for Contact:	High	Moderate	X	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes ☒ No Type:

Comments:

Signature: Jessica Knepper **Date:** 10/21/2019

Date: 10/21/2019



School: John F. Kennedy Middle School, Main Building

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1 Location: Library Skylight

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Window Panels (WP)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: 5 %, Localized, ☒ Distributed

Type of Damage: ☐ Deterioration, ☐ Water, ☒ Physical

Description: _____

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact: High Moderate X Low

Description: _____

Influence of Vibration: High Moderate X Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes ☒ No Type:

Comments:

Signature: Jessica Kinsler Date: 10/21/2019



School: John F. Kennedy Middle School, Technology Center

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 1, 3, 4, 5, 6 Location: Lab/Conference Room, Offices, Hallways, Closets/Storage and Lunch Room

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Floor Tile and Adhesive (FTA)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: 0 %, Localized, Distributed

Type of Damage: Deterioration, Water, Physical

Description: _____

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact:	<u>X</u>	High	Moderate	Low

Description: _____

Influence of Vibration: High Moderate X Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? Yes ☒ No Type:

Signature: Cal Bell Date: 10/22/2019

Date: 10/22/2019



School: John F. Kennedy Middle School, Technology Center

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 5 Location: Closets

Type of Suspect Material: Surfacing, TSI, X Other X Friable

Description: Light Fixture Insulation (LFI)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: _____%, _____ Localized, _____ Distributed

Type of Damage: Deterioration, Water, Physical

Description: _____

Overall Rating: Good Fair Poor

Accessibility: Accessible, Inaccessible

Description: _____

Potential for Contact: High Moderate X Low

Description: _____

Influence of Vibration: High Moderate X Low

Description:

Potential for Air Erosion: High Moderate X Low

Description: _____

Located in a Plenum? ☐ Yes ☒ No Type: _____

Comments: The light fixture insulation was not found in the closets.

Signature: Cal B... Date: 10/22/2019



School: John F. Kennedy Middle School, Technology Center

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 5 Location: Large Storage (Old Kitchen Area)

Type of Suspect Material: X Surfacing, TSI, Other X Friable

Description: Plaster Material (PM)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 35 %, Localized, ☒ Distributed

Type of Damage: Deterioration, Water, X Physical

Description:

Overall Rating: Good X Fair Poor

Accessibility:	X Accessible,	Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description: _____

Influence of Vibration: High Moderate **X** Low

Description: _____

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes X No Type:

Signature: Cal Bell Date: 10/22/2019

Date: 10/22/2019



School: John F. Kennedy Middle School, Technology Center

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 4 **Location:** Hallway

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Terrazzo (TE)

Approximate Amount of Material (linear or square feet):

Percent Damaged: 0 %, Localized, Distributed

Type of Damage:	Deterioration,	Water,	Physical

Description:

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description:

Potential for Contact:	X	High	Moderate	Low

Description:

Influence of Vibration:	High	Moderate	X	Low

Description:

Potential for Air Erosion: High Moderate X Low

Description:

Located in a Plenum? Yes ☒ No ☐ Type: _____

Comments:

Signature: Cal Bo Date: 10/22/2019



School: John F. Kennedy Middle School, Technology Center

Building: 2325 East Washington Street, Suffolk, Virginia 23434

Functional Area No.: 11 Location: Throughout the Building

Type of Suspect Material: Surfacing, TSI, X Other Friable

Description: Window Caulk and Glaze (WC)

Approximate Amount of Material (linear or square feet): _____

Percent Damaged: 0 %, Localized, Distributed

Type of Damage: Deterioration, Water, Physical

Description: _____

Overall Rating: X Good Fair Poor

Accessibility: X Accessible, Inaccessible

Description: _____

Potential for Contact: X High Moderate Low

Description: _____

Influence of Vibration:	High	Moderate	X	Low

Description: _____

Potential for Air Erosion:	High	Moderate	X	Low

Description: _____

Located in a Plenum? _____ Yes X No Type:

Signature: Cal Bell Date: 10/22/2019

Date: 10/22/2019



Marine Chemist Service, Inc.

SECTION 9

REMOVAL PRIORITIES AND SUMMARY



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Chorus - Supply Room	CA	5		-	7	1	7
Chorus - Music Room	CTA	1	2/5	P/W	4	5	5
Auditorium	CTA	6	2	W	4	5	6
Auditorium	DD	6		-	7	1	7
Gym	DD	6		-	7	1	7
Cafeteria	DS	7		-	7	1	7
Band Room	DWM	1	5	P	4	5	5
Cafeteria	DWM	7		-	6	1	7
Tech Lab - Tools	DWM	(NA) 1		-	6	1	7
Tech Lab - Finishing Room	DWM	(NA) 1		-	6	1	7
Tech Lab - General Office	DWM	(NA) 3		-	6	1	7
Tech Lab - Storage	DWM	(NA) 5		-	6	1	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Room 605/607	DWM	(NF) 1		-	7	1	7
Room 704	DWM	(NF) 1		-	7	1	7
Throughout the Building	FD	11		-	5	1	7
Room 101 and 102	FTA	1	5	P	4	6	7
Room 103	FTA	1		-	6	3	7
Room 104	FTA	1		-	6	3	7
Room 105 and 106	FTA	1		-	6	3	7
Library, under carpet	FTA	1		-	6	3	7
Library - Preview Room #1	FTA	1	5	P	4	6	7
Chorus - Music Room, under carpet	FTA	1		-	6	3	7
Chorus - Practice Room (1)	FTA	1		-	6	3	7
Chorus - Music Office, under carpet	FTA	1		-	6	3	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Practice Room 3 (Formerly Chorus-Music Office)	FTA	1		-	6	3	7
Room 107, 9" FTA	FTA	1	10	P/W	4	7	6
Room 107, 12" FTA	FTA	1		-	6	3	7
Room 108, under carpet	FTA	1		-	6	3	7
Prep Room, by 108	FTA	1		-	6	3	7
Room 109, under carpet	FTA	1		-	6	3	7
Room 110, under carpet	FTA	1		-	6	3	7
Room 111, under carpet	FTA	1		-	6	3	7
Clinic	FTA	1		-	6	3	7
Clinic-Waiting Area	FTA	1		-	6	3	7
Room 310	FTA	1	5	P	4	6	7
Room 311	FTA	1	2	P	4	6	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Room 313	FTA	1	2/5	P/W	4	6	7
Room 315	FTA	1	2/10	P/W	4	7	6
Room 316	FTA	1	3	P	4	6	7
Room 317	FTA	1	2	P	4	6	7
Room 318	FTA	1	10	P	4	7	6
Room 319	FTA	1	7	P	4	6	7
Room 321	FTA	1	5	P	4	6	7
Room 322	FTA	1	2	P	4	6	7
Room 401	FTA	1	<1	P	6	3	7
Conference Room (Formerly Work Room), under carpet	FTA	1		-	6	3	7
Room 402	FTA	1		-	6	3	7
Room 201	FTA	1	2	P	4	6	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Room 202	FTA	1		-	6	3	7
Room 314	FTA	1	3	P	4	6	7
Room 203	FTA	1		-	6	3	7
Prep Room, by 203	FTA	1		-	6	3	7
Room 204	FTA	1	2	P	4	6	7
Room 205	FTA	1	2	P	4	6	7
Room 206	FTA	1		-	6	3	7
Room 207	FTA	1	2	P	4	6	7
Room 301	FTA	1	5	P	4	6	7
Room 302	FTA	1	3	P	4	6	7
Room 303	FTA	1	1	P	6	6	7
Room 304	FTA	1		-	6	3	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Room 305	FTA	1	2	P	4	6	7
Room 307	FTA	1	3	P	4	6	7
Room 308	FTA	1	2	P	4	6	7
Room 309	FTA	1	3	P	4	6	7
Room 501	FTA	1	15	P/W	4	7	6
Room 502	FTA	1	<1	P	6	3	7
Room 601	FTA	1	50	P	4	7	1
Room 601 Prep	FTA	1	50	P	4	7	1
Room 602	FTA	1	<1	P	6	3	7
Room 603	FTA	1	50	P	4	7	1
Room 604	FTA	1	3	P	4	6	7
Room 605/607	FTA	1		-	6	3	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Room 606	FTA	1	<1	P	6	3	7
Room 606 Passthrough	FTA	1	5	P	4	6	7
Room 608	FTA	1	20	P	4	7	5
Room 609	FTA	1	5	P	4	6	7
Room 610	FTA	1	1	P	6	6	7
Room 701	FTA	1	1	P	6	6	7
Room 702	FTA	1		-	6	3	7
Room 703	FTA	1	<1	P	6	3	7
Room 704	FTA	1	3	P	4	6	7
Room 705	FTA	1	5	P	4	6	7
Room 706	FTA	1	10	P	4	7	6
Home Economics, under carpet	FTA	1		-	6	3	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Home Economics Kitchen 1	FTA	1		-	6	3	7
Library - Workroom Office, under carpet	FTA	3		-	6	3	7
Library - Speech/ Reference Office	FTA	3		-	6	3	7
Library - Office, under carpet	FTA	3		-	6	3	7
Band Office	FTA	3	5	P	4	6	7
Room 601 Office	FTA	3	50	P	4	7	1
Dietician's Office	FTA	3	<1	P	6	3	7
Hallway outside Room 110	FTA	4	8	P	4	6	6
Vault	FTA	5		-	6	3	7
Supplies	FTA	5	2	P	4	6	7
Room 601 Storeroom	FTA	5		-	6	3	7
Vending Area	FTA	6	<1	P	6	3	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Kitchen	FTA	7	1	P	4	6	7
Library - Preview Room #2	FTA	(NA) 1		-	6	3	7
Library - Testing Room, under carpet	FTA	(NA) 1		-	6	3	7
Room 312	FTA	(NA) 1		-	6	3	7
Prep Room, by 207	FTA	(NA) 1		-	6	3	7
Room 306	FTA	(NA) 1		-	6	3	7
Work Room	FTA	(NA) 1		-	6	3	7
Kitchen Office	FTA	(NA) 3		-	6	3	7
Closet	FTA	(NA) 5		-	6	3	7
Storage, by 301	FTA	(NA) 5		-	6	3	7
Old Kitchen Area (Boy's and Girl's Club)	FTA	(NA) 7		-	6	3	7
Girls' Restroom	FTA	(NF) 2		-	7	1	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Boy's Restroom	FTA	(NF) 2		-	7	1	7
Tech Lab - General Office (Formerly Shop Lab General Office), under carpet	FTA	(NF) 3		-	7	1	7
Linen #2	FTA	(NF) 5		-	7	1	7
Linen #1	FTA	(NF) 5		-	7	1	7
Prep Room, by 108	LC	1		-	5	2	7
Prep Room, by 203	LC	1	1	P	5	5	7
Room 205	LC	1		-	5	2	7
Room 301	LC	1		-	5	2	7
Room 604	LC	1	5	P	4	5	7
Room 606	LC	1	1	P	5	5	7
Prep Room, by 207	LC	(NA) 1		-	7	2	7
Storage, by kitchen utility closet	LFI	(NA) 5		-	7	1	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Clinic Storage	MM	5		-	7	1	7
Storage, by Room 310	MM	5		-	7	1	7
Custodial Closet	MM	5		-	7	1	7
Work Room	MM	(NA) 1		-	7	1	7
Kitchen Utility Closet	MM	(NA) 5		-	7	1	7
Storage, by Linen #2	MM	(NF) 5		-	7	1	7
Arts and Crafts Room	NA	(NA) 1		-	7	1	7
Storage Room 4	NA	(NA) 5		-	7	1	7
Auditorium, ceiling	PM	6		-	5	3	7
Kitchen, ceiling	PM	7	<1	P	5	3	7
Women's Restroom, ceiling	PM	(NF) 2		-	7	3	7
Throughout the Building	RDM	11		-	7	1	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Main Building

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Storage, by 301	RDM	(NA) 5		-	7	1	7
Hallways	TE	4	<1	P	5	3	7
Cafeteria	TE	7	<1	P	5	3	7
Gym and Auditorium Overhang	TM	6		-	5	3	7
Cafeteria (Exit Door)	TM	7		-	5	3	7
Throughout the Building	WC	11		-	6	3	7
Throughout the Building	WMA	11		-	7	1	7
Library Skylight	WP	1	5	P	5	5	7

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Technology Center

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Lab/ Conference Room	FTA	1		-	6	3	7
Front Office	FTA	3		-	6	3	7
Front Right Office	FTA	3		-	6	3	7
Right Rear Office	FTA	3		-	6	3	7
Left Rear Office	FTA	3		-	6	3	7
Office Conference Room	FTA	3		-	6	3	7
Offices and Hallway in Old Classroom Area	FTA	3		-	6	3	7
Hallway with Conference Room	FTA	4		-	6	3	7
Closets	FTA	5		-	6	3	7
Storage	FTA	5		-	6	3	7
Lunch Room	FTA	6		-	6	3	7
Closets	LFI	(NF) 5		-	7	1	7
Large Storage (Old Kitchen Area)	PM	5	35	P	3	7	1

Summary Assessment



Marine Chemist Service, Inc.

SCHOOL: John F. Kennedy Middle School, Technology Center

BUILDING: 2325 East Washington Street, Suffolk, Virginia 23434

Room #/Location	Functional		% Damage	P or W Damage	FEDERAL		
	ACBM	Area			AHERA Assess #	AHERA Haz. Rank #	Removal Priority #
Hallway	TE	4		-	6	3	7
Throughout Building, caulk	WC	11		-	6	3	7
Throughout Building, glaze	WC	11		-	6	3	7

Summary Assessment



REMOVAL PRIORITIES

Removal Priority 1	Materials in this category are excessively damaged with large amounts of debris and dust. Any contact with these materials will be very likely to release fibers. Until these materials have been removed, the spaces they occupy should be locked with the key controlled by the LEA AHERA designee. Access to these areas should be limited to properly trained personnel.
Removal Priority 2	Materials in this category are not damaged as extensively as in Removal Priority 1, but they have a high potential for contact and receiving additional damage. Contact with these materials will release asbestos fibers. Repair of this material may be possible, but removal is often more practical. Until these materials have been removed or repaired, the space containing them should be controlled by the LEA designee. Access should be limited to properly trained personnel. If any of the materials is repaired instead of removed, then an O&M plan will need to be implemented to maintain the repaired material in good condition.
Removal Priority 3	Materials in this category are damaged, There is potential for contact, and contact could release asbestos fibers. The spaces containing these materials should be under the control of the LEA designee. Access should be limited to properly trained personnel. If this material is repaired instead of replaced, an O&M plan should be implemented to maintain the repaired material in good condition.
Removal Priority 4	Materials in this category are damaged. There is some potential for contact and contact could release asbestos fibers. Access to areas containing materials in this category should be restricted until the material is repaired or removed. If the material is repaired, and O&M plan should be implemented to maintain the material in good condition.
Removal Priority 5	Materials in this category are in good shape with little or no damage. There is a high potential for contact, and this contact could cause significant damage. The material must be maintained in its present good condition. The factors relating to its high potential for contact should be controlled to eliminate potential damage. Maintenance should only be performed by qualified personnel. An O&M plan should be implemented until removal is complete.
Removal Priority 6	Materials in this category are in good shape with little or no damage. There is some potential for contact and damage. Materials in this category need to be maintained in their good condition. Factors relating to potential damage should be controlled and maintenance work should only be performed by properly trained personnel. An O&M plan should be implemented until the material is removed.
Removal Priority 7	Materials in this category are in good shape. There is little or no damage to these materials. Potential for contact and damage is low. Materials in the category should be maintained in their present condition. Only qualified workers should be allowed to work on these materials. An O&M plan should be implemented until the material is removed.



Marine Chemist Service, Inc.

SECTION 10

BLANK CHECKLIST FOR PERIODIC SURVEILLANCE



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable
Room 101 and 102	9" Floor Tile and Adhesive, Tan with Brown	(10) Missing; 5% distributed physical damage			ex: (3) 6" cracks; 4% physical damage, physical
Room 103	9" Floor Tile and Adhesive, Tan with Brown	(24) Patches; (62) 12" White Patches			
Room 104	9" Floor Tile and Adhesive, Tan with Brown	(40) Patches			
Room 105 and 106	9" Floor Tile and Adhesive, Tan with Brown	(0) Missing			
Girls' Restroom	Floor Tile and Adhesive	Not found			
Boy's Restroom	Floor Tile and Adhesive	Not found			
Library, under carpet	Floor Tile and Adhesive, Tan with Brown, under carpet	Assumed intact, under carpet			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable Comments include (%) (localized/distributed) (water/physical)
Library Skylight	Window Panels	5% distributed physical damage			
Library - Workroom Office, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Library - Speech/ Reference Office	9" Floor Tile and Adhesive, Tan with Brown	Intact			
Library - Office, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Library - Preview Room #2	9" Floor Tile and Adhesive, Tan with Brown	Not accessible			
Library - Preview Room #1	9" Floor Tile and Adhesive, Tan with Brown	5% distributed physical damage			
Library - Testing Room, under carpet	Floor Tile and Adhesive, under carpet	Not accessible			

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable Comments include (%) (localized/distributed) (water/physical)
Chorus - Music Room, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Chorus - Music Room	1' Ceiling Tile and Adhesive	2% distributed physical damage 5% distributed water damage			
Chorus - Practice Room (1)	9" Floor Tile and Adhesive, Brown with White	Carpet observed; floor tile assumed intact			
Chorus - Supply Room	No Access	Carpet observed; floor tile assumed intact			
Chorus - Music Office, under carpet	Floor Tile and Adhesive, under carpet	Carpet observed; floor tile assumed intact			
Practice Room 3 (Formerly Chorus-Music Office), under carpet	Floor Tile and Adhesive, under carpet	Carpet observed; floor tile assumed intact			
Room 107, 9" FTA	9" Floor Tile and Adhesive, Brown with White	10% localized physical damage and water damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Room 107, 12" FTA	12" Floor Tile and Adhesive, White and Beige	(25%) patched			
Room 108, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Prep Room, by 108	9" Floor Tile and Adhesive, Tan with Brown	No floor tile observed			
Prep Room, by 108	Countertops	Wooden Countertops			
Room 109, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Band Room	Drywall and Mud	5% distributed physical damage			
Band Office	9" Floor Tile and Adhesive, Beige with White	5% distributed physical damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Hallway outside Room 110	9" Floor Tile and Adhesive, Beige with White	(6) patched; 8% distributed physical damage			
Room 110, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Room 111, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet			
Tech Lab - General Office (Formerly Shop Lab General Office), under carpet	9" Floor Tile and Adhesive, Tan with White, under carpet	No carpet			
Tech Lab - General Office	Drywall and Mud	Not accessible			
Tech Lab - Tools	Drywall and Mud	Not accessible			
Tech Lab - Finishing Room	Drywall and Mud	Not accessible			

X = No Change from Last Inspection

GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Tech Lab - Storage	Drywall and Mud	Not accessible			
Hallways	Terrazzo	<1% distributed physical damage			
Women's Restroom, ceiling	Plaster Ceiling	Not found			
Auditorium, ceiling	Plaster Ceiling	Intact			
Auditorium	Ceiling Tile and Adhesive	2% localized water damage			
Auditorium	Vibration Duct Cloth	Intact			
Clinic	9" Floor Tile and Adhesive, Tan with Brown	12" White Floor Tile observed intact			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

7 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
				X = No Change	F = Friable
Clinic Storage	Mudded Fittings (7)	Intact			
Kitchen	9" Floor Tile and Adhesive, Tan with Brown	1% distributed physical damage			
Closet	9" Floor Tile and Adhesive, Tan with Brown	Not accessible			
Clinic-Waiting Area	9" Floor Tile and Adhesive, Tan with Brown	Observed 12" Floor Tile and Adhesive, White, intact			
Vault	9" Floor Tile and Adhesive, Tan with Brown	Intact			
Room 310	9" Floor Tile and Adhesive, Brown	5% distributed physical damage			
Storage, by Room 310	Mudded Fittings (6)	Intact			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
				X = No Change	F = Friable
Room 311	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage			
Room 312	9" Floor Tile and Adhesive, Beige with White	Not accessible			
Room 313	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage, 5% distributed water damage			
Room 314	9" Floor Tile and Adhesive, Tan with White	3% distributed physical damage			
Room 315	9" Floor Tile and Adhesive, Beige with White	(10) missing; 2% distributed physical damage, 10% distributed water damage			
Room 316	9" Floor Tile and Adhesive, Beige with White	3% distributed physical damage			
Room 317	9" Floor Tile and Adhesive, Beige with White	2% distributed physical damage			

X = No Change from Last Inspection

GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	F = Friable
Room 318	9" Floor Tile and Adhesive, Beige with White	10% distributed physical damage				
Room 319	9" Floor Tile and Adhesive, Beige with White	7% distributed physical damage				
Room 321	9" Floor Tile and Adhesive, Tan with Brown	5% distributed physical damage				
Room 322	9" Floor Tile and Adhesive, Beige with White	2% distributed physical damage				
Room 401	9" Floor Tile and Adhesive, Beige with White	<1% distributed physical damage				
Conference Room (Formerly Work Room), under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet				
Vending Area	12" Floor Tile and Adhesive, Beige with Brown	<1% distributed physical damage				

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Atlantic Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

**ACBM (include size, color,
pattern, # if applicable such
as fittings)**

**6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)**

X = No Change

**Insp
Initials**

Comments (last inspection)

Room/Location

Room 402	Floor Tile and Adhesive, Tan with Brown	Intact			
Room 201	9" Floor Tile and Adhesive, Tan with Black	(10%) of tile patched; 2% damaged			
Room 202	9" Floor Tile and Adhesive, Tan with White	(9) Tiles Patched			
Room 203	12" Floor Tile and Adhesive, Grey	Intact			
Prep Room, by 203	12" Floor Tile and Adhesive, Grey	Intact			
Prep Room, by 203	Countertops	1% distributed physical damage			
Room 204	9" Floor Tile and Adhesive, Beige with White	2% localized physical damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

**ACBM (include size, color,
pattern, # if applicable such
as fittings)**

**6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)**

**X = No Change
F = Friable**

Room/Location

Comments (last inspection)

**Insp
Initials**

Room 205	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage		
Room 205	Countertops	Intact		
Room 206	9" Floor Tile and Adhesive, Beige with White	(7) Tiles Patched		
Supplies	9" Floor Tile and Adhesive, Beige with White	2% physical damage		
Room 207	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage		
Prep Room, by 207	9" Floor Tile and Adhesive, Tan with Brown	Not accessible		
Prep Room, by 207	Countertops	Not accessible		

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

12 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable Comments include (%) (localized/distributed) (water/physical)
Room 301	9" Floor Tile and Adhesive, Tan with Brown	5% distributed physical damage			
Room 301	Countertops	Intact			
Storage, by 301	Roof Drain Mud	Not accessible			
Storage, by 301	9" Floor Tile and Adhesive, Tan with Brown	Not accessible			
Room 302	9" Floor Tile and Adhesive, Tan with Brown	3% physical damage			
Room 303	9" Floor Tile and Adhesive, Tan with Brown	1% localized physical damage			
Room 304	9" Floor Tile and Adhesive, Tan with Brown	(25%) patched			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable Comments include (%) (localized/distributed) (water/physical)
Room 305	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage			
Room 306	9" Floor Tile and Adhesive, Tan with Brown	Not accessible			
Room 307	9" Floor Tile and Adhesive, Tan with Brown	3% localized physical damage			
Room 308	9" Floor Tile and Adhesive, Tan with Brown	2% localized physical damage			
Room 309	9" Floor Tile and Adhesive, Tan with Brown	(50% Patched); 3% physical damage			
Room 501	9" Floor Tile and Adhesive, Tan with Brown	(38) Patched; 15% physical and water damage			
Room 502	9" Floor Tile and Adhesive, Tan with Brown	< 1% distributed physical damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

14 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

**ACBM (include size, color,
pattern, # if applicable such
as fittings)**

**6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)**

**X = No Change
F = Friable**

**Insp
Initials**

Comments (last inspection)

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change F = Friable	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Room 601	9" Floor Tile and Adhesive, Brown	(18) Patched, 50% distributed physical damage			
Room 601 Prep	9" Floor Tile and Adhesive, Brown	50% divots			
Room 601 Office	9" Floor Tile and Adhesive, Brown	50% divots			
Room 601 Storeroom	9" Floor Tile and Adhesive, Brown	Intact			
Room 602	9" Floor Tile and Adhesive, Brown	<1% distributed physical damage			
Room 603	9" Floor Tile and Adhesive, Brown	50% divots			
Room 604	9" Floor Tile and Adhesive, Brown	3% distributed physical damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

ACBM (include size, color,
pattern, # if applicable such
as fittings)

6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)

X = No Change

Insp
Initials

Room/Location

Comments (last inspection)

Room 604	Countertops	5% distributed physical damage			
Work Room	9" Floor Tile and Adhesive, Tan with Brown	Not accessible			
Work Room	Mudded Fittings (5)	Not accessible			
Room 605/607	9" Floor Tile and Adhesive, Beige with White	(28) Patched			
Room 605/607	Drywall and Mud	Not found			
Room 606	9" Floor Tile and Adhesive, Brown	<1% distributed physical damage			
Room 606	Countertops	1% distributed physical damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemical Services, Inc.

16 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Room 606 Passthrough	9" Floor Tile and Adhesive, Brown	5% distributed physical damage			
Room 608	9" Floor Tile and Adhesive, Brown	(20%) divots, distributed			
Room 609	9" Floor Tile and Adhesive, Brown	(14) Patched, (1) Missing; 5% distributed physical damage			
Room 610	9" Floor Tile and Adhesive, Brown	1% distributed physical damage			
Storage Room 4	No Access	Not accessible			
Room 701	9" Floor Tile and Adhesive, Brown	1% distributed physical damage			
Room 702	9" Floor Tile and Adhesive, Brown	(12) Patched			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

**ACBM (include size, color,
pattern, # if applicable such
as fittings)**

**6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)**

**X = No Change
N = Variable**

**Insp
Initials**

Comments (last inspection)

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Variable	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Room 703	9" Floor Tile and Adhesive, Brown	<1% distributed physical damage			
Room 704	9" Floor Tile and Adhesive, Brown	(21) Patched, beige; 3% distributed physical damage			
Room 704	Drywall and Mud	Not found			
Room 705	9" Floor Tile and Adhesive, Brown	5% distributed physical damage			
Room 706	9" Floor Tile and Adhesive, Beige with White	10% distributed physical and localized damage			
Arts and Crafts Room	No Access	No access			
Custodial Closet	Mudded Fittings	Intact			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Environmental Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

**ACBM (include size, color,
pattern, # if applicable such
as fittings)**

**6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)**

X = No Change

**Insp
Initials**

Comments (last inspection)

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	X = Triable
Gym	Vibration Duct Cloth	Intact				
Home Economics, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet				
Old Kitchen Area (Boy's and Girl's Club)	9" Floor Tile and Adhesive, Tan with Brown	Not accessible				
Linen #2	9" Floor Tile and Adhesive, Tan with Brown	Not found				
Storage, by Linen #2	Mudded Fittings (20)	Not found				
Linen #1	9" Floor Tile and Adhesive, Tan with Brown	Not found				
Home Economics Kitchen 1	12" Floor Tile and Adhesive, Blue	Intact				

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

19 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

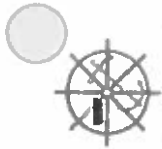
Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable
Cafeteria	Terrazzo	<1% distributed physical damage			
Cafeteria (Exit Door)	Transite Panels	Intact			
Cafeteria	Drywall and Mud	Intact			
Cafeteria	Duct Insulation Sealer	Intact			
Kitchen, ceiling	Plaster Ceiling	<1% localized physical damage			
Kitchen Office	9" Floor Tile and Adhesive, Tan with White	Not accessible			
Kitchen Utility Closet	Mudded Elbows (10)	Not accessible			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

**ACBM (include size, color,
pattern, # if applicable such
as fittings)**

**6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)**

**X = No Change
N = Triable**

**Insp
Initials**

Comments (last inspection)

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Triable	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Storage, by kitchen utility closet	Light Fixture Insulation	Not accessible			
Throughout the Building	Fire Door Insulation	Intact			
Throughout the Building	Blackboard and Adhesive	Intact			
Throughout the Building	Roof Drain Mud	Intact			
Gym and Auditorium Overhang	Transite Panels	Intact			
Throughout the Building	Window Caulking	Intact			
Dietician's Office	9" Floor Tile and Adhesive	<1% distributed physical damage			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Technology Center
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 10/1/2019

Inspectors: _____

Current Date: _____

Room/Location
ACBM (include size, color, pattern, # if applicable such as fittings)

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Hallway	Terrazzo	Intact			ex: (3) 6" cracks; 4% physical damage, physical
Front Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017			
Front Right Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017			
Right Rear Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017			
Left Rear Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017			
Hallway with Conference Room	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017			
Closets	12" Floor Tile and Adhesive, Beige with Brown	Intact			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Technology Center
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 10/1/2019

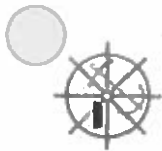
Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Change	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	N = No Change X = Change
Closets	Light Fixture Insulation (1)	Not found				
Office Conference Room	12" Floor Tile and Adhesive, Green and Beige	Replaced with Blue Carpet in 2017				
Lab/ Conference Room	12" Floor Tile and Adhesive, Green and Beige	Replaced with Blue Carpet in 2017				
Storage	12" Floor Tile and Adhesive, Beige with Brown	Intact				
Lunch Room	12" Floor Tile and Adhesive, Beige with Brown	Replaced with 12" Floor Tile, White				
Offices and Hallway in Old Classroom Area	12" Floor Tile and Adhesive, Beige with Brown	Replaced with 12" Floor Tile, White				
Large Storage (Old Kitchen Area)	Plaster	35% distributed physical damage				

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Atlantic Chemical Service, Inc.

John F. Kennedy Middle School, Technology Center
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 10/1/2019

Inspectors: _____

Current Date: _____

ACBM (include size, color,
pattern, # if applicable such
as fittings)

6 Month Surveillance
Comments include (%)
(localized/distributed)
(water/physical)

X = No Change
N = Variable

Insp
Initials

Comments (last inspection)

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Throughout Building, caulk	Window Caulking	Intact		
Throughout Building, glaze	Window Glazing	Intact		

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

1 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: N/A

Date of Last AHERA Inspection: 8/7/2019

Inspectors: T. Wapner

Current Date: 02/2020

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	X = Triable
Room 101 and 102	9" Floor Tile and Adhesive, Tan with Brown	(10) Missing; 5% distributed physical damage	TM	X	ex: (3) 6" cracks; 4% physical damage, physical	
Room 103	9" Floor Tile and Adhesive, Tan with Brown	(24) Patches; (62) 12" White Patches	TM	X		
Room 104	9" Floor Tile and Adhesive, Tan with Brown	(40) Patches	TM	X		
Room 105 and 106	9" Floor Tile and Adhesive, Tan with Brown	(0) Missing	TM	X		
Girls' Restroom	Floor Tile and Adhesive	Not found	TM	X		
Boy's Restroom	Floor Tile and Adhesive	Not found	TM	X		
Library, under carpet	Floor Tile and Adhesive, Tan with Brown, under carpet	Assumed intact, under carpet	TM	X		

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved N/A



Atlantic Chemical Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Library Skylight	Window Panels	5% disturbed physical damage	JM	X	
Library - Workroom Office, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	JM	X	
Library - Speech/ Reference Office	9" Floor Tile and Adhesive, Tan with Brown	Intact	JM	X	
Library - Office, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	JM	X	
Library - Preview Room #2	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	JM	X	
Library - Preview Room #1	9" Floor Tile and Adhesive, Tan with Brown	5% disturbed physical damage	JM	X	
Library - Testing Room, under carpet	Floor Tile and Adhesive, under carpet	Not accessible	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
				X = No Change	F = Friable
Chorus - Music Room, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	JM	X	
Chorus - Music Room	1' Ceiling Tile and Adhesive	2% distributed physical damage 5% distributed water damage	JM	X	
Chorus - Practice Room (1)	9" Floor Tile and Adhesive, Brown with White	Carpet observed; floor tile assumed intact	JM	X	
Chorus - Supply Room	No Access	Carpet observed; floor tile assumed intact	JM	X	
Chorus - Music Office, under carpet	Floor Tile and Adhesive, under carpet	Carpet observed; floor tile assumed intact	JM	X	
Practice Room 3 (Formerly Chorus-Music Office), under carpet	Floor Tile and Adhesive, under carpet	Carpet observed; floor tile assumed intact	JM	X	
Room 107, 9" FTA	9" Floor Tile and Adhesive, Brown with White	10% localized physical damage and water damage	JM	X	

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Atlantic Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Notable	
				6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
Room 107, 12" FTA	12" Floor Tile and Adhesive, White and Beige	(25%) patched	JM	X	
Room 108, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	JM	X	
Prep Room, by 108	9" Floor Tile and Adhesive, Tan with Brown	No floor tile observed	JM	X	
Prep Room, by 108	Countertops	Wooden Countertops	JM	X	
Room 109, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	JM	X	
Band Room	Drywall and Mud	5% distributed physical damage	JM	X	
Band Office	9" Floor Tile and Adhesive, Beige with White	5% distributed physical damage	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Hallway outside Room 110	9" Floor Tile and Adhesive, Beige with White	(6) patched; 8% distributed physical damage	MM	X	
Room 110, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	MM	X	
Room 111, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	MM	X	
Tech Lab - General Office (Formerly Shop Lab General Office), under carpet	9" Floor Tile and Adhesive, Tan with White, under carpet	No carpet	MM	X	
Tech Lab - General Office	Drywall and Mud	Not accessible	MM	X	
Tech Lab - Tools	Drywall and Mud	Not accessible	MM	X	
Tech Lab - Finishing Room	Drywall and Mud	Not accessible	MM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

6 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Triable	
				6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
Tech Lab - Storage	Drywall and Mud	Not accessible	JM	X	
Hallways	Terrazzo	<1% distributed physical damage	JM	X	
Women's Restroom, ceiling	Plaster Ceiling	Not found	JM	X	
Auditorium, ceiling	Plaster Ceiling	Intact	JM	X	
Auditorium	Ceiling Tile and Adhesive	2% localized water damage	JM	X	
Auditorium	Vibration Duct Cloth	Intact	JM	X	
Clinic	9" Floor Tile and Adhesive, Tan with Brown	12" White Floor Tile observed intact	JM	X	

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Albright Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable
Clinic Storage	Mudded Fittings (7)	Intact	MM	X	
Kitchen	9" Floor Tile and Adhesive, Tan with Brown	1% distributed physical damage	MM	X	
Closet	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	MM	X	
Clinic-Waiting Area	9" Floor Tile and Adhesive, Tan with Brown	Observed 12" Floor Tile and Adhesive, White, intact	MM	X	
Vault	9" Floor Tile and Adhesive, Tan with Brown	Intact	MM	X	
Room 310	9" Floor Tile and Adhesive, Brown	5% distributed physical damage	MM	X	
Storage, by Room 310	Mudded Fittings (6)	Intact	MM	X	

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

8 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	X = Triable
Room 311	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage	JM	X		
Room 312	9" Floor Tile and Adhesive, Beige with White	Not accessible	JM	X		
Room 313	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage, 5% distributed water damage	JM	X		
Room 314	9" Floor Tile and Adhesive, Tan with White	3% distributed physical damage	JM	X		
Room 315	9" Floor Tile and Adhesive, Beige with White	(10) missing; 2% distributed physical damage, 10% distributed water damage	JM	X		
Room 316	9" Floor Tile and Adhesive, Beige with White	3% distributed physical damage	JM	X		
Room 317	9" Floor Tile and Adhesive, Beige with White	2% distributed physical damage	JM	X		

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change		6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	X = No Change	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Room 318	9" Floor Tile and Adhesive, Beige with White	10% distributed physical damage	JM	X				
Room 319	9" Floor Tile and Adhesive, Beige with White	7% distributed physical damage	JM	X				
Room 321	9" Floor Tile and Adhesive, Tan with Brown	5% distributed physical damage	JM	X				
Room 322	9" Floor Tile and Adhesive, Beige with White	2% distributed physical damage	JM	X				
Room 401	9" Floor Tile and Adhesive, Beige with White	<1% distributed physical damage	JM	X				
Conference Room (Formerly Work Room), under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	JM	X				
Vending Area	12" Floor Tile and Adhesive, Beige with Brown	<1% distributed physical damage	JM	X				

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

10 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Room 402	Floor Tile and Adhesive, Tan with Brown	Intact	JN	X	
Room 201	9" Floor Tile and Adhesive, Tan with Black	(10%) of tile patched; 2% damaged	JN	X	
Room 202	9" Floor Tile and Adhesive, Tan with White	(9) Tiles Patched	JN	X	
Room 203	12" Floor Tile and Adhesive, Grey	Intact	JN	X	
Prep Room, by 203	12" Floor Tile and Adhesive, Grey	Intact	JN	X	
Prep Room, by 203	Countertops	1% distributed physical damage	JN	X	
Room 204	9" Floor Tile and Adhesive, Beige with White	2% localized physical damage	JN	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

11 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

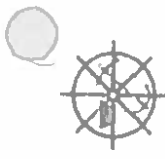
Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	F = Friable Comments include (%) (localized/distributed) (water/physical)
Room 205	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage	JM	X	
Room 205	Countertops	Intact	JM	X	
Room 206	9" Floor Tile and Adhesive, Beige with White	(7) Tiles Patched	JM	X	
Supplies	9" Floor Tile and Adhesive, Beige with White	2% physical damage	JM	X	
Room 207	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage	JM	X	
Prep Room, by 207	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	JM	X	
Prep Room, by 207	Countertops	Not accessible	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Atlantic Chemical Structure, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____ Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____ Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Room 301	9" Floor Tile and Adhesive, Tan with Brown	5% distributed physical damage	MM	X	
Room 301	Countertops	Intact	MM	X	
Storage, by 301	Roof Drain Mud	Not accessible	MM	X	
Storage, by 301	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	MM	X	
Room 302	9" Floor Tile and Adhesive, Tan with Brown	3% physical damage	MM	X	
Room 303	9" Floor Tile and Adhesive, Tan with Brown	1% localized physical damage	MM	X	
Room 304	9" Floor Tile and Adhesive, Tan with Brown	(25%) patched	MM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

13 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Room 305	9" Floor Tile and Adhesive, Tan with Brown	2% distributed physical damage	JM	X	
Room 306	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	JM	X	
Room 307	9" Floor Tile and Adhesive, Tan with Brown	3% localized physical damage	JM	X	
Room 308	9" Floor Tile and Adhesive, Tan with Brown	2% localized physical damage	JM	X	
Room 309	9" Floor Tile and Adhesive, Tan with Brown	(50% Patched); 3% physical damage	JM	X	
Room 501	9" Floor Tile and Adhesive, Tan with Brown	(38) Patched; 15% physical and water damage	JM	X	
Room 502	9" Floor Tile and Adhesive, Tan with Brown	<1% distributed physical damage	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

14 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Problem	
				6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
Room 601	9" Floor Tile and Adhesive, Brown	(18) Patched, 50% distributed physical damage	ML	X	
Room 601 Prep	9" Floor Tile and Adhesive, Brown	50% divots	ML	X	
Room 601 Office	9" Floor Tile and Adhesive, Brown	50% divots	ML	X	
Room 601 Storeroom	9" Floor Tile and Adhesive, Brown	Intact	ML	X	
Room 602	9" Floor Tile and Adhesive, Brown	<1% distributed physical damage	ML	X	
Room 603	9" Floor Tile and Adhesive, Brown	50% divots	ML	X	
Room 604	9" Floor Tile and Adhesive, Brown	3% distributed physical damage	ML	X	

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

15 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Notable	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Room 604	Countertops	5% distributed physical damage	JM	X	
Work Room	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	JM	X	
Work Room	Mudded Fittings (5)	Not accessible	JM	X	
Room 605/607	9" Floor Tile and Adhesive, Beige with White	(28) Patched	JM	X	
Room 605/607	Drywall and Mud	Not found	JM	X	
Room 606	9" Floor Tile and Adhesive, Brown	<1% distributed physical damage	JM	X	
Room 606	Countertops	1% distributed physical damage	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Room 606 Passthrough	9" Floor Tile and Adhesive, Brown	5% distributed physical damage	JM	X	
Room 608	9" Floor Tile and Adhesive, Brown	(20%) divots, distributed	JM	X	
Room 609	9" Floor Tile and Adhesive, Brown	(14) Patched, (1) Missing; 5% distributed physical damage	JM	X	
Room 610	9" Floor Tile and Adhesive, Brown	1% distributed physical damage	JM	X	
Storage Room 4	No Access	Not accessible	JM	X	
Room 701	9" Floor Tile and Adhesive, Brown	1% distributed physical damage	JM	X	
Room 702	9" Floor Tile and Adhesive, Brown	(12) Patched	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

17 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change = Problem	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Room 703	9" Floor Tile and Adhesive, Brown	<1% distributed physical damage	JM	X	
Room 704	9" Floor Tile and Adhesive, Brown	(21) Patched, beige; 3% distributed physical damage	JM	X	
Room 704	Drywall and Mud	Not found	JM	X	
Room 705	9" Floor Tile and Adhesive, Brown	5% distributed physical damage	JM	X	
Room 706	9" Floor Tile and Adhesive, Beige with White	10% distributed physical and localized damage	JM	X	
Arts and Crafts Room	No Access	No access	JM	X	
Custodial Closet	Mudded Fittings	Intact	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Services, Inc.

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Notable	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Gym	Vibration Duct Cloth	Intact	M	X	
Home Economics, under carpet	Floor Tile and Adhesive, under carpet	Assumed intact, under carpet	M	X	
Old Kitchen Area (Boy's and Girl's Club)	9" Floor Tile and Adhesive, Tan with Brown	Not accessible	M	X	
Linen #2	9" Floor Tile and Adhesive, Tan with Brown	Not found	M	X	
Storage, by Linen #2	Mudded Fittings (20)	Not found	M	X	
Linen #1	9" Floor Tile and Adhesive, Tan with Brown	Not found	M	X	
Home Economics Kitchen 1	12" Floor Tile and Adhesive, Blue	Intact	M	X	

X = No Change from Last Inspection
 GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

19 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Triable	
				6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
Cafeteria	Terrazzo	<1% distributed physical damage	JM	X	
Cafeteria (Exit Door)	Transite Panels	Intact	JM	X	
Cafeteria	Drywall and Mud	Intact	JM	X	
Cafeteria	Duct Insulation Sealer	Intact	JM	X	
Kitchen, ceiling	Plaster Ceiling	<1% localized physical damage	JM	X	
Kitchen Office	9" Floor Tile and Adhesive, Tan with White	Not accessible	JM	X	
Kitchen Utility Closet	Mudded Elbows (10)	Not accessible	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

20 of 20

John F. Kennedy Middle School, Main Building
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 8/7/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change = Problem	
				6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	
Storage, by kitchen utility closet	Light Fixture Insulation	Not accessible	JM	X	
Throughout the Building	Fire Door Insulation	Intact	JM	X	
Throughout the Building	Blackboard and Adhesive	Intact	JM	X	
Throughout the Building	Roof Drain Mud	Intact	JM	X	
Gym and Auditorium Overhang	Transite Panels	Intact	JM	X	
Throughout the Building	Window Caulking	Intact	JM	X	
Dietician's Office	9" Floor Tile and Adhesive	<1% distributed physical damage	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

John F. Kennedy Middle School, Technology Center
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 10/1/2019

Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change		6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)	N = Triable
				X	No		
Hallway	Terrazzo	Intact	MM	X		ex: (3) 6" cracks, 4% physical damage, physical	
Front Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017	MM	X			
Front Right Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017	MM	X			
Right Rear Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017	MM	X			
Left Rear Office	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017	MM	X			
Hallway with Conference Room	12" Floor Tile and Adhesive, Beige with Brown	Replaced with Blue Carpet in 2017	MM	X			
Closets	12" Floor Tile and Adhesive, Beige with Brown	Intact	MM	X			

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Atlantic Element Structure, Inc.

John F. Kennedy Middle School, Technology Center
2325 East Washington Street, Suffolk, Virginia 23434

Project Manager: _____

Date of Last AHERA Inspection: 10/1/2019

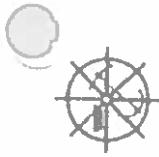
Inspectors: _____

Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	6 Month Surveillance	
				X = No Change	Comments include (%) (localized/distributed) (water/physical)
Closets	Light Fixture Insulation (1)	Not found	JM	X	
Office Conference Room	12" Floor Tile and Adhesive, Green and Beige	Replaced with Blue Carpet in 2017	JM	X	
Lab/ Conference Room	12" Floor Tile and Adhesive, Green and Beige	Replaced with Blue Carpet in 2017	JM	X	
Storage	12" Floor Tile and Adhesive, Beige with Brown	Intact	JM	X	
Lunch Room	12" Floor Tile and Adhesive, Beige with Brown	Replaced with 12" Floor Tile, White	JM	X	
Offices and Hallway in Old Classroom Area	12" Floor Tile and Adhesive, Beige with Brown	Replaced with 12" Floor Tile, White	JM	X	
Large Storage (Old Kitchen Area)	Plaster	35% distributed physical damage	JM	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Atlantic Chemist Service, Inc.

**John F. Kennedy Middle School, Technology Center
2325 East Washington Street, Suffolk, Virginia 23434**

Project Manager: _____ Date of Last AHERA Inspection: 10/1/2019

Inspectors: _____ Current Date: _____

Room/Location	ACBM (include size, color, pattern, # if applicable such as fittings)	Comments (last inspection)	Insp Initials	X = No Change N = Friable	6 Month Surveillance Comments include (%) (localized/distributed) (water/physical)
Throughout Building, caulk	Window Caulking	Intact	744	X	
Throughout Building, glaze	Window Glazing	Intact	744	X	

X = No Change from Last Inspection
GRAY AREAS MUST BE COMPLETED

Initials Indicate Project Manager Approved _____



Marine Chemist Service, Inc.

SECTION 11

ABBREVIATIONS FOR ACBM AND AREAS



Abbreviations for Asbestos Containing Building Materials (ACBM)

AM - Acoustical Material	LF - Light Fixtures
BA - Blackboard Adhesive	LF I - Light Fixture Insulation
BS - Block Sealer	LHS - Light Heat Shield
BB - Bunsen Burner Pads	MM - Mudded Materials
CA - Carpet Adhesive	PI - Pipe Insulation
CB - Cove Base	PM - Plaster Material
CTA - Ceiling Tile & Adhesive	PS - Pipe Sealer
CT - Ceiling Tile	RD - Roof Drains
DD - Expansion Duct & Vibration Dampers	RDM - Roof Drain Mud
DS - Duct Sealer	SF - Sealer on Fiberglass
DW - Drywall	SG - Soundboard & Glue
DWM - Drywall and Mud	SI - Stack Insulation
ED - Exhaust Damper	SO - Soffits
FB - Fire Brick	SP - Spray On
FC - Fire Curtain/Blanket	SU - Sink Undercoating
FD - Fire Door	TC - Textured Ceiling
FMA - Flooring Material & Adhesive	TE - Terrazzo
FTA - Floor Tile & Adhesive	TM - Transite Material
HC - Hood Cover	TWP - Transite Window Panel
HFA - Hardwood Floor and Adhesive	TPF - TSI on Pipe & Fittings
IN - Insulation	TSI - Thermal System Insulation
IPF - Insulation and Pipe Filling	TT - Table Tops (includes countertops)
JC - Joint Compound/Mud	WB - Wallboard
LC - Laboratory Countertops	WC - Window Caulking
	WG - Window Glaze
	WMA - Wall Mounting Adhesive
	WP - Window Panels

Abbreviations for Functional Areas

- 1 Classrooms and Clinic
- 2 Restrooms and Locker Rooms
- 3 Offices
- 4 Hallway
- 5 Closets and Storage
- 6 Recreational Areas
- 7 Kitchen Areas
- 8 Mechanical Areas
- 9 Outside Areas
- 10 Mobile Units
- 11 Throughout Building
- NA Not Accessible
- NF Not Found
- X Removed Material



Marine Chemist Service, Inc.

SECTION 12

ABATEMENT AND SAMPLING RECORDS

END OF ATTACHMENT #1

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Work performed by Owner.
 - 4. Owner-furnished/Owner-installed (OFOI) products.
 - 5. Contractor's use of site and premises.
 - 6. Coordination with occupants.
 - 7. Work restrictions.
 - 8. Specification and Drawing conventions.

1.3 PROJECT INFORMATION

- A. Project Identification: SECEP Renovation at JFK Middle School.
 - 1. Project Location: 2327 E Washington St, Suffolk, VA 23434.
- B. Owner: Suffolk Public Schools, 1507 Freeney Avenue, Suffolk, VA 23434.
 - 1. Owner's Representative: Terry Napier, Director of Facilities and Planning.
- C. Architect: RRMM Architects, 1317 Executive Boulevard, Suite 200, Chesapeake, VA 23220
 - 1. Owner's Representative:
 - a. Principle-in-Charge: Jeffrey A. Harris, Architect
 - b. Project Manager: Doug Cofer, Architect

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. Approximately 12,382 square feet of renovated space that is separated into two areas, Area A and Area B. Area A is an 8,396 square foot self-contained building on the JFK Middle School campus that is occupied by SECEP. Area B is a 4,013 square foot portion

of the main JFK Middle School that is occupied by SECEP. Areas A and B are both classified as type II-B, unprotected construction and have a group "E" occupancy. There will be no change to the existing fire protection systems.

2. All renovation work is limited to the interior spaces and generally consists of the following items...
 - a. New VCT flooring in most rooms, installed over the existing floor tile. Area B contains existing VAT flooring and shall be encapsulated with the new VCT. VAT shall not be disturbed.
 - b. Create a securable student lounge in the existing holding room A107 with access from the corridor.
 - c. Replace damaged ceiling tiles with salvaged tiles from other portions of the work.
 - d. Replace ceiling grid and tiles in the new student lounge.
 - e. Remove chalk boards, tack boards, and marker boards and provide new markerboards as shown on the drawings.
 - f. Replace broken drinking fountain.
 - g. Replace all lighting with LED fixtures.
 - h. In Area A, replace all wood paneling with 5/8" AR GWB. Keep the plywood sheathing behind the wood paneling. Extend electrical equipment as required to accommodate the new GWB thickness.
 - i. New rubber base throughout.
 - j. New wall paint throughout, except for corridors. Corridor wall and ceiling paint is not in contract.
 - k. Add storage closet to Area A plan northwest classroom with access from corridor.
 - l. Clean existing finishes to remain to a "like-new" condition.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 WORK PERFORMED BY OWNER

A. Concurrent Work: Owner will perform the following construction operations at Project site. Those operations will be conducted simultaneously with Work under this Contract.

1. Installation of new security system.
2. Installation of new intercom system.
3. IT/Data wiring as needed.

1.6 OWNER-FURNISHED/OWNER-INSTALLED (OFOI) PRODUCTS

A. The Owner will furnish and install products indicated.

B. Owner-Furnished/Owner-Installed (OFOI) Products:

1. Furniture including desks, chairs, couches, and stools.

2. Microwave
3. Minifridge

1.7 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 1. Limits on Use of Site: Confine construction operations to areas shown as in contract on the contract documents.
 2. Parking Lots: A portion of the parking lot between Area A and Area B may be used as a staging area, upon written owner approval.
 3. Parking Lots, Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.8 COORDINATION WITH OCCUPANTS

- A. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1.9 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: No limitations.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Employee Screening: Comply with Owner's requirements for drug screening of Contractor personnel working on Project site.
 1. Maintain list of approved screened personnel with Owner's representative.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
- C. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.7 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count
- B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Lump-Sum Allowance: Include the sum of \$1,500.00 for miscellaneous repairs to existing gypsum board to remain in new work, as specified in Section 092900 "Gypsum Board" and Section 099123 "Interior Painting."
 - 1. This allowance includes material, receiving, handling, and installation costs, and Contractor overhead and profit.
 - 2. This allowance only includes work that is above and beyond what is already required in the contract documents.
- B. Allowance No. 2: Lump-Sum Allowance: Include the sum of \$2,000.00 for addition of new VCT flooring in room A122 Men's Toilet, as specified in Section 096519 "Resilient Tile Flooring." This allowance shall only be used if cleaning of existing VCT in room A122 Men's Toilet does not produce a result that is satisfactory to the owner, and if the owner approves the use of this allowance prior to the start of associated work.
 - 1. This allowance includes material, receiving, handling, and installation costs, and Contractor overhead and profit.
 - 2. This allowance only includes work that is above and beyond what is already required in the contract documents.
- C. Allowance No. 3: Lump-Sum Allowance: Include the sum of \$1,200.00 for addition of new VCT flooring in room A123 Women's Toilet, as specified in Section 096519 "Resilient Tile Flooring." This allowance shall only be used if cleaning of existing VCT in room A123 Women's Toilet does not produce a result that is satisfactory to the owner, and if the owner approves the use of this allowance prior to the start of associated work.
 - 1. This allowance includes material, receiving, handling, and installation costs, and Contractor overhead and profit.
 - 2. This allowance only includes work that is above and beyond what is already required in the contract documents.

END OF SECTION 012100

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for products selected under an allowance.
 - 2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
 - 3. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.

- b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for this project.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

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

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.
 - 2. Section 016000 "Product Requirements" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and

finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to **Architect**.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on an approved change order form.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.

- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange schedule of values in an approved format.
 3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or division.
 - b. Description of the Work.
 - c. Change Orders (numbers) that affect value.
 - d. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents.
 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
 7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
 1. Submit draft copy of Application for Payment three (3) days prior to due date for review by Architect.
- C. Application for Payment Forms: Use Schedule of Values and an approved format for Certificate for Payment as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. Transmittal: Submit four (4) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Submittal schedule (preliminary if not final).
 5. List of Contractor's staff assignments.
 6. Copies of building permits.
 7. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 8. Report of preconstruction conference.
 9. Certificates of insurance and insurance policies.
 10. Performance and payment bonds.
 11. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. Evidence that all issues related to pre-construction survey have been resolved.
 5. Evidence that claims have been settled.
 6. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

7. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. RFIs.
 - 3. Project meetings.
- B. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, cellular

telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and in prominent location in each built facility. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
 1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Name of Architect.
 - 4. Date.
 - 5. Name of Contractor.
 - 6. RFI number, numbered sequentially.
 - 7. RFI subject.
 - 8. Specification Section number and title and related paragraphs, as appropriate.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Field dimensions and conditions, as appropriate.
 - 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 12. Contractor's signature.
 - 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 - 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.
- D. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Use CSI Log Form or an approved format.
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number, including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within five (5) days if Contractor disagrees with response.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three (3) days of the meeting.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:

- a. Tentative construction schedule.
 - b. Critical work sequencing and long lead items.
 - c. Designation of key personnel and their duties.
 - d. Lines of communications.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of Record Documents.
 - l. Use of the premises and existing building.
 - m. Work restrictions.
 - n. Working hours.
 - o. Owner's occupancy requirements.
 - p. Responsibility for temporary facilities and controls.
 - q. Procedures for moisture and mold control.
 - r. Procedures for disruptions and shutdowns.
 - s. Construction waste management and recycling.
 - t. Parking availability.
 - u. Office, work, and storage areas.
 - v. Equipment deliveries and priorities.
 - w. First aid.
 - x. Security.
 - y. Progress cleaning.
 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 2. Refer to Specification Manual for section requiring pre-installation conferences.
 3. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Possible conflicts.
 - i. Compatibility requirements.
 - j. Time schedules.

- k. Weather limitations.
 - l. Manufacturer's written instructions.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Installation procedures.
 - u. Coordination with other work.
 - v. Required performance results.
 - w. Protection of adjacent work.
 - x. Protection of construction and personnel.
 - 4. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 5. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 6. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at bimonthly intervals.
- 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.

- 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
 - 2. Construction schedule updating.
 - 3. Daily construction reports.
 - 4. Material location reports.
 - 5. Site condition reports.
 - 6. Specieal reports.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting schedules and reports.
 - 2. Section 014000 "Quality Requirements" for schedule of tests and inspections.
 - 3. Section 012900 "Payment Procedures" for schedule of values and requirements for use of cost-loaded schedule for Applications for Payment.

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.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.

- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Narrative format electronic schedule file.
 - 2. PDF file.
 - 3. Two (2) paper copies, of sufficient size to display entire period or schedule, as required.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Daily Construction Reports: Submit in accordance with paragraph 3.1b.
- E. Special Reports: Submit at time of unusual event.
- F. Qualification Data: For scheduling consultant.

1.5 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

- B. Recovery Schedule: When periodic update indicates the Work is fourteen (14) or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- C. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules by Oracle/Primavera (P3 or Sure Trak) or Microsoft (Project).

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than fourteen (14) days after date established for the Notice to Proceed.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
 - 2. Use "one workday" as the unit of time for individual activities. Indicate nonworking days including weather days specified in supplemental conditions, paragraph 3.10.4.2 and holidays incorporated into the schedule in order to coordinate with the Contract Time.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events (see special reports).
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Emergency procedures.
 - 12. Orders and requests of authorities having jurisdiction.
 - 13. Change Orders received and implemented.
 - 14. Construction Change Directives received and implemented.
 - 15. Partial completions and occupancies.
 - 16. Substantial Completions authorized.

- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one (1) day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
 - 1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 - 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At bi-monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule two (2) days before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Submittal schedule requirements.
- 2. Administrative and procedural requirements for submittals.

B. Related Requirements:

- 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
- 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
- 3. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
- 4. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.
 - g. Scheduled date of fabrication.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD 2007 format.
 - c. Contractor shall execute a data licensing agreement provided by the Architect.
 - d. The indicated Contract Drawings will be provided to the Contractor for a processing fee of One Hundred Dollars (\$100.00).
 - e. The following digital data files will be furnished for each appropriate discipline:
 - 1) Floor plans.

- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow fifteen (15) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow fifteen (15) days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow twenty-one (21) days for initial review of each submittal.
- D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Name of subcontractor.
 - f. Name of supplier.
 - g. Name of manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
 - j. Location(s) where product is to be installed, as appropriate.
 - k. Other necessary identification.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.
 - a. Transmittal Form for Paper Submittals: Provide locations on form for the following information:
 - 1) Project name.
 - 2) Date.
 - 3) Destination (To:).
 - 4) Source (From:).
 - 5) Name and address of Architect.
 - 6) Name of Contractor.
 - 7) Name of firm or entity that prepared submittal.
 - 8) Names of subcontractor, manufacturer, and supplier.
 - 9) Category and type of submittal.
 - 10) Submittal purpose and description.
 - 11) Specification Section number and title.
 - 12) Specification paragraph number or drawing designation and generic name for each of multiple items.
 - 13) Drawing number and detail references, as appropriate.
 - 14) Indication of full or partial submittal.
 - 15) Transmittal number, numbered consecutively.
 - 16) Submittal and transmittal distribution record.
 - 17) Remarks.
 - 18) Signature of transmitter.
- E. Electronic Submittals: Electronic PDF files will be accepted by the Architect. Identify and incorporate information in each electronic submittal file as follows:
 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., SECEP-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., SECEP-061000.01A).
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Names of subcontractor, manufacturer, and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Specification Section number and title.
 - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Indication of full or partial submittal.
 - o. Transmittal number, numbered consecutively.
 - p. Submittal and transmittal distribution record.
 - q. Other necessary identification.
 - r. Remarks.
- F. Options: Identify options requiring selection by Architect.
- G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 2. Action Submittals: Submit seven (7) paper copies of each submittal unless otherwise indicated. Architect will return three (3) copies.
 3. Informational Submittals: Submit four (4) paper copies of each submittal unless otherwise indicated. Architect will not return copies.
 4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one (1) full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three (3) sets of Samples. Architect will retain two (2) Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- F. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- G. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."
- H. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
- I. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."
- J. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- K. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

- L. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- M. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- N. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- O. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- P. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- Q. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- R. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- S. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- T. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- U. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- V. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads.

Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Provide temporary on-site toilet facilities for use by construction personnel.
- C. Water Service: The Owner will allow temporary use of water by all entities for construction operations.
- D. Electric Power Service: The Owner will allow temporary use of electric service by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
 - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.

2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Maintain a clean site, clear of construction debris to fullest extent possible. Construction staff shall take measure to clean grounds from small construction materials that may become projectiles during mowing operations.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch- OD corner and pull posts.
- B. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top and bottom rails. Provide concrete or galvanized-steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

- A. Field Offices: Owner will provide conditioned interior space for field offices for duration of Project.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect and construction personnel activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

- 1. Store combustible materials apart from building.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

- 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."

- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

- 1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.
 - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
 - b. Maintain negative air pressure within work area, using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
 - 2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.

- 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to **municipal system** as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 1. Use of Permanent Toilets: Use of Owner's existing or new toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
 1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- G. Electric Power Service: Ensure electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
- H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- I. Telephone Service: Provide cellular telephone service for use by all construction personnel.
 1. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.
- J. Electronic Communication Service: Provide a desktop computer in the primary field office adequate for use by Architect and Owner to access Project electronic documents and maintain electronic communications.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Comply with the following:
 - 1. Utilize designated area within existing building for temporary field offices.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Temporary Use of Existing Permanent Roads and Paved Areas: Maintain existing roads and paved areas adequate for construction operations.
 - 1. Any damage during construction activities to existing facilities, concrete walks, drives or asphalt areas, etc. that are to remain, shall be repaired to a condition that's equal or better to its original condition without any additional cost to the Owner.
- C. Parking: Provide temporary parking areas for construction personnel.
- D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 - 2. Remove snow and ice as required to minimize accumulations.
- E. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Temporary Signs: Provide signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - 2. Maintain and touchup signs so they are legible at all times.
- F. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."
- H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Comply with requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Temporary Enclosures: Provide temporary enclosures for protection of 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 incomplete, insulate temporary enclosures.
- F. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 1. Prohibit smoking in construction areas.
 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.6 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 1. Protect porous materials from water damage.
 2. Protect stored and installed material from flowing or standing water.
 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 4. Remove standing water from decks.
 5. Keep deck openings covered or dammed.

- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 - 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 - 2. Keep interior spaces reasonably clean and protected from water damage.
 - 3. Periodically collect and remove waste containing cellulose or other organic matter.
 - 4. Discard or replace water-damaged material.
 - 5. Do not install material that is wet.
 - 6. Discard, replace, or clean stored or installed material that begins to grow mold.
 - 7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.
- D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
 - 1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 - 2. Use temporary HVAC system to control humidity, unless use of permanent HVAC system is approved by Owner.
 - 3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for forty-eight (48) hours are considered defective.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for forty-eight (48) hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
 - c. Remove materials that cannot be completely restored to their manufactured moisture level within forty-eight (48) hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 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.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than

Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 2. Section 01770 "Closeout Procedures" for submitting warranties.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.

2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. See Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Products:

- a. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

2. Manufacturers:

- a. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

3. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not

satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 017300 - EXECUTION

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Coordination of Owner's portion of the Work.
 - 6. Progress cleaning.
 - 7. Starting and adjusting.
 - 8. Protection of installed construction.
 - 9. Correction of the Work.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 013300 "Submittal Procedures" for submitting surveys.
 - 3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For professional engineer.
- B. Certificates: Submit certificate signed by professional engineer, certifying that location and elevation of improvements comply with requirements.
- C. Cutting and Patching Plan: Submit plan describing procedures at least [10] <Insert number> days prior to the time cutting and patching will be performed. Include the following information:
 - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.

3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.4 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire-suppression systems.
 - c. Plumbing piping systems.
 - d. Mechanical systems piping and ducts.
 - e. Control systems.
 - f. Communication systems.
 - g. Fire-detection and -alarm systems.
 - h. Electrical wiring systems.
 - i. Operating systems of special construction.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Equipment supports.
 - d. Piping, ductwork, vessels, and equipment.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner

that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
 2. List of detrimental conditions, including substrates.
 3. List of unacceptable installation tolerances.
 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings. If discrepancies are discovered, notify Architect promptly.
- B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work.
- C. Record Log: Maintain a log of layout control work. Make the log available for reference by Architect.

3.4 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb, and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 COORDINATION OF OWNER'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for Owner's construction personnel and Owner's separate contractors.
1. Provide temporary facilities required for Owner-furnished, Owner-installed products.
 2. Refer to Section 011000 "Summary" for other requirements for Owner-furnished, Owner-installed products.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel and Owner's separate contractors.
1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 2. Preinstallation Conferences: Include Owner's construction personnel and Owner's separate contractors at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Restore permanent facilities used during construction to their specified condition.
- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous waste.
 - 2. Recycling nonhazardous waste.
 - 3. Disposing of nonhazardous waste.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PERFORMANCE REQUIREMENTS

- A. General: Maximize rates for salvage/recycling of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:

1. Construction Waste:

- a. Masonry and CMU.
- b. Lumber.
- c. Metals.
- d. Roofing.
- e. Insulation.
- f. Carpet and pad.
- g. Gypsum board.
- h. Piping.
- i. Electrical conduit.
- j. Packaging: Salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - 1) Paper.
 - 2) Cardboard.
 - 3) Boxes.
 - 4) Plastic sheet and film.
 - 5) Polystyrene packaging.
 - 6) Wood crates.
 - 7) Plastic pails.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 RECYCLING CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.2 RECYCLING CONSTRUCTION WASTE

A. Packaging:

- 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
- 2. Polystyrene Packaging: Separate and bag materials.
- 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
- 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

- 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
- 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

- 1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.3 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the work.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for progress cleaning of Project site.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 4. Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.5 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.7 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Divisions 02 through 33 Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by the Owner. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain the Owner signature for receipt of submittals.
 - 5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.

2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 7. Complete final cleaning requirements.
 8. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- A. Inspection: Submit a completed Substantial Completion form a minimum of ten (10) days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.8 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- A. Inspection: Submit a completed Final Completion form for final inspection to determine acceptance a minimum of ten (10) days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.9 LIST OF INCOMPLETE ITEMS (PUNCHLIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order that is consistent with the Contract Documents.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.
 - 4. Submit list of incomplete items in one (1) of the following formats:
 - a. MS Excel electronic file. Architect will return annotated file.
 - b. PDF electronic file. Architect will return annotated file.
 - c. Three (3) paper copies. Architect will return two (2) copies.

1.10 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. 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.
 - f. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - i. Remove labels that are not permanent.
 - j. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - k. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - l. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 012500 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Divisions 02 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:
 - 1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.

- a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.
2. Three (3) paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two (2) copies.
- C. Initial Manual Submittal: Submit draft copy of each manual at least thirty (30) days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least fifteen (15) days before commencing demonstration and training. Architect will return copy with comments.
 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within fifteen (15) days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
 1. List of documents.
 2. List of systems.
 3. List of equipment.
 4. Table of contents.
- B. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

2.2 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:

1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Architect.
 7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 8. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in

manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 - 2. Performance and design criteria if Contractor has delegated design responsibility.
- B. Descriptions: Include the following:
 - 1. Product name and model number. Use designations for products indicated on Contract Documents.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.

2.4 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.

3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
1. Do not use original project record documents as part of operation and maintenance manuals.
 2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."
- D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Product Data.
 - 3. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for final property survey.
 - 2. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 3. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 4. Divisions 02 through 33 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one (1) set of marked-up record prints.
 - a. Initial Submittal:
 - 1) Submit one (1) paper-copy set of marked-up record prints.
 - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit one (1) paper-copy set of marked-up record prints.
 - 2) Provide each drawing, whether or not changes and additional information were recorded.

- B. Reports: Submit written report biweekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record 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 provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding archive photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to electrical circuitry.
 - f. Changes made by Change Order or Construction Change Directive.
 - g. Changes made following Architect's written orders.
 - h. Details not on the original Contract Drawings.
 - i. Field records for variable and concealed conditions.
 - j. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 - 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building.
 - 2. Salvage of existing items to be reused or recycled.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Section 017300 "Execution" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 INFORMATIONAL SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- B. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before Work begins.
- C. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- D. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.7 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.8 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area (Area B on drawings). Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Owner will remove the following items:
 - a. Loose furniture including desks and chairs.
 - b. Personal belongings.
 - c. Paper and fabric items hung on walls
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

- D. Hazardous Materials: It is expected that hazardous materials will be encountered in the Work.
1. Refer to section 003126 "Existing Hazardous Material Information" and Attachment #1 "AHERA 3-Year Reinspection 2019." Suspected existing hazardous materials include vinyl asbestos tile (VAT) in areas indicated on the drawings.
 2. New finishes shall fully encapsulate existing vinyl asbestos tile (VAT). Do not disturb existing VAT in any way.
 3. If suspected hazardous materials not shown on the drawings are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
 4. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
1. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-alarm systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
 6. Maintain adequate ventilation when using cutting torches.
 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition, cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Vinyl Composition Tile (VCT) Floor Coverings: Remove only the damaged tiles indicated on the drawings. Do no damage adjacent tiles to remain. Fill cracks and voids with self-leveling compound as required for new floor finish material. Refer to new floor finish materials manufacturers recommendations.
- B. Carpet Floor Coverings: Remove floor coverings and adhesive as required for new floor finish installation. Refer to new floor finish materials manufacturers recommendations.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wood blocking and nailers.

1.3 DEFINITIONS

- A. Exposed Framing: Framing not concealed by other construction.
- B. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- C. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NLGA: National Lumber Grades Authority.
 - 3. SPIB: The Southern Pine Inspection Bureau.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include copies of warranties from chemical treatment manufacturers for each type of treatment.
- B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:

1. Wood-preservative-treated wood.
2. Power-driven fasteners.
3. Powder-actuated fasteners.

1.5 QUALITY ASSURANCE

- A. Source Limitations for Fire-Retardant-Treated Wood Products: Obtain each type of fire-retardant-treated wood product through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 3. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP C2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWP C31 with inorganic boron (SBX).
 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:

1. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
 3. Furring.
- B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber with 19 percent maximum moisture content and any of the following species:
 1. Hem-fir (north); NLGA or
 2. Hem-fir; WCLIB, or WWP.
 3. Mixed southern pine; SPIB.
 4. Spruce-pine-fir; NLGA or
 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWP.
 6. Northern species; NLGA.
 7. Eastern softwoods; NeLMA.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer.

2.8 MISCELLANEOUS MATERIALS

- A. Sheathing Tape: Pressure-sensitive plastic tape for sealing joints and penetrations in sheathing and recommended by sheathing manufacturer for use with type of sheathing required.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds and similar supports to comply with requirements for attaching other construction.
- B. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- G. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

3.2 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.

END OF SECTION 061000

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plastic-laminate-clad architectural cabinets.
2. Cabinet hardware and accessories.
3. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-clad architectural cabinets that are not concealed within other construction.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing cabinets that are concealed within other construction before cabinet installation.
2. Section 123623.13 "Plastic-Laminate-Clad Countertops."

1.2 COORDINATION

- A.** Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to support loads imposed by installed and fully loaded cabinets.

1.3 PREINSTALLATION MEETINGS

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Show large-scale details.
3. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
4. Show locations and sizes of cutouts and holes for items installed in plastic-laminate architectural cabinets.
5. Apply AWI Quality Certification Program label to Shop Drawings.

C. Samples for Verification: For the following:

1. Plastic Laminates: 8 by 10 inches for each type, color, pattern, and surface finish required, with one sample applied to core material with specified edge material applied to one edge.
2. PVC Edge material, 6 inches, for each type, pattern, color, and surface finish.
3. Exposed Cabinet Hardware and Accessories: One full-size unit for each type and finish.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
- B. Product Certificates: For each type of product, signed by the product manufacturer.
- C. Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.
- D. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products like those required for this Project and whose products have a record of successful in-service performance.
 1. Manufacturer's Certification: Licensed participant in AWI's Quality Certification Program.
- B. Installer Qualifications: Fabricator of products and certified participant in AWI's Quality Certification Program.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver cabinets until painting and similar finish operations that might damage architectural cabinets have been completed in installation areas. Store cabinets in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.8 FIELD CONDITIONS

- A. Environmental Limitations without Humidity Control: Do not deliver or install cabinets until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.
- B. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.
 - C. Established Dimensions: Where cabinets are indicated to fit to other construction, establish dimensions for areas where cabinets are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.
- 1.9 Coordination
- A. Coordinate sizes and locations of framing, blocking, furring reinforcements, and other related units of work specified in other sections to ensure that cabinets can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.
 1. Provide labels and certificates from AWI certification program indicating that woodwork and installation complies with requirements of grades specified.
 2. The Contract Documents contain requirements that are more stringent than the referenced quality standard. Comply with requirements of Contract Documents in addition to those of the referenced quality standard.
- B. Architectural Woodwork Standards Grade: Custom.
- C. Type of Construction: Frameless.
- D. Door and Drawer-Front Style: Flush overlay.
- E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by quality standard.
 1. Formica Corporation
 2. Wilsonart International; Div. of Premark International, Inc
 3. Pionite
 4. Nevamar
 5. Arborite
- F. Laminate Cladding for Exposed Surfaces:
 1. Horizontal Surfaces: Grade HGS.
 2. Postformed Surfaces: Grade HGP.

3. Vertical Surfaces: Grade HGS.
4. Edges: PVC Edge banding, 3MM thick, matching laminate in color, pattern, and finish.
5. Pattern Direction: Vertically for drawer fronts, doors, and fixed panels.

G. Materials for Semi-exposed Surfaces:

1. Surfaces Other Than Drawer Bodies: $\frac{3}{4}$ -inch C-grade domestic solid-hardwood core plywood panels.
 - a. Edges of Plastic-Laminate Shelves: PVC edge banding, 3.0 mm thick, matching laminate in color, pattern, and finish.
 - b. Edges of Thermally Fused Laminate Panel Shelves: PVC or polyester edge banding.
 - c. For semiexposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, NEMA LD 3, Grade VGS.
2. Drawer Sides and Backs: $\frac{1}{2}$ "-inch plywood core thermoset decorative panels with PVC edge banding.
3. Drawer Bottoms: $\frac{1}{2}$ "-inch plywood core thermoset decorative panels with PVC edge banding.

H. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

I. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners.

J. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. As indicated on drawings.
 - a. Solid colors, matte finish.
 - b. Wood grains, matte finish.
 - c. Patterns, matte finish.

2.2 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 5 to 10 percent.

- B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130
2. Particleboard: ANSI A208.1, Grade M-2
3. Softwood Plywood: DOC PS 1, medium-density overlay.
4. Thermoset Decorative Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
1. Use treated materials that comply with requirements of referenced quality standard. Do not use materials that are warped, discolored, or otherwise defective.
 2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
 3. Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.
- B. Fire-Retardant-Treated Lumber and Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
1. Kiln-dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent, respectively.
 2. For items indicated to receive a stained or natural finish, use organic resin chemical formulation.
 3. Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking shop certified by testing and inspecting agency.
 4. Mill lumber before treatment and implement procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of architectural cabinets.
- C. Fire-Retardant Particleboard: Made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E 84.

1. For panels 3/4 inch thick and less, comply with ANSI A208.1 for Grade M-2 except for the following minimum properties: modulus of rupture, 1600 psi; modulus of elasticity, 300,000 psi; internal bond, 80 psi; and screw-holding capacity on face and edge, 250 and 225 lbf, respectively.
 2. For panels 13/16 to 1-1/4 inches thick, comply with ANSI A208.1 for Grade M-1 except for the following minimum properties: modulus of rupture, 1300 psi; modulus of elasticity, 250,000 psi; linear expansion, 0.50 percent; and screw-holding capacity on face and edge, 250 and 175 lbf, respectively.
- D. Fire-Retardant Fiberboard: MDF panels complying with ANSI A208.2, made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 200 or less per ASTM E 84.

2.4 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087100 "Door Hardware."
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 min.degrees of opening, self-closing.
- C. Back-Mounted Pulls: ANSI/BHMA A156.9, B02011.
1. Doug Mockett and Company, Inc. Model NO DP128. Satin stainless steel or approved equal. Meets ADA guidelines.
- D. Catches: Magnetic catches, BHMA A156.9, B03141. Provide on all cabinet doors.
- E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081
- F. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip.
- G. Drawer Slides: ANSI/BHMA A156.9.
1. Heavy Duty Grade 1HD-100 (100 lb load rating): side mounted full-over travel extension type; zinc-plated-steel ball-bearing slides.
- H. Door Locks: ANSI/BHMA A156.11, E07121. Provide on all cabinet doors.
- I. Drawer Locks: ANSI/BHMA A156.11, E07041. Provide on all drawers.
- J. Door and Drawer Silencers: ANSI/BHMA A156.16, L03011.
- K. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for ANSI/BHMA finish number indicated.
1. Satin Stainless Steel: BHMA 630.
- L. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in ANSI/BHMA A156.9.

2.5 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated softwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.
- C. Adhesive for Bonding Plastic Laminate: Contact cement
 - 1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

2.6 FABRICATION

- A. Fabricate architectural cabinets to dimensions, profiles, and details indicated.
- B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Notify Architect seven days in advance of the dates and times architectural cabinet fabrication will be complete.
 - 2. Trial fit assemblies at manufacturer's shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.

3.2 INSTALLATION

- A. Grade: Install cabinets to comply with quality standard grade of item to be installed.

- B. Assemble cabinets and complete fabrication at Project site to extent that it was not completed in the shop.
- C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.
- D. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches using concealed shims.
 - 1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
 - 2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
 - 3. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head screws sized for not less than 1-1/2-inch penetration into wood framing, blocking, or hanging strips or No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects. Where not possible to repair, replace architectural cabinets. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean cabinets on exposed and semiexposed surfaces.

END OF SECTION 064116

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Penetration firestopping systems for the following applications:
 - a. Penetrations in fire-resistance-rated walls.
- B. Related Requirements:
 - 1. Section 078443 "Joint Firestopping" for joints in or between fire-resistance-rated construction.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.
 - 1. Engineering Judgments: Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping system, submit illustration, with modifications marked, approved by penetration firestopping system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly. Obtain approval of authorities having jurisdiction prior to submittal.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Installer Certificates: From Installer indicating penetration firestopping has been installed in compliance with requirements and manufacturer's written recommendations.
- C. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."
- B. Installer Qualifications: A firm experienced in installing penetration firestopping similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements. Manufacturer's willingness to sell its penetration firestopping products to Contractor or to Installer engaged by Contractor does not in itself confer qualification on buyer.
- C. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:
 - 1. Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.
 - 2. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
 - b. Classification markings on penetration firestopping correspond to designations listed by the following:
 - 1) UL in its "Fire Resistance Directory."

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install penetration firestopping system when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping materials per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.7 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be installed according to specified firestopping system design.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. A/D Fire Protection Systems Inc.
 2. Grace Construction Products.
 3. Hilti, Inc.
 4. Johns Manville.
 5. Nelson Firestop Products.
 6. NUCO Inc.
 7. Passive Fire Protection Partners.
 8. RectorSeal Corporation.
 9. Specified Technologies Inc.
 10. 3M Fire Protection Products.
 11. Tremco, Inc.; Tremco Fire Protection Systems Group.
 12. USG Corporation.

2.2 PENETRATION FIRESTOPPING SYSTEMS

- A. Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
- B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
1. Fire-resistance-rated walls include smoke-barrier walls and fire partitions.
 2. F-Rating: Not less than the fire-resistance rating of constructions penetrated.
- C. Exposed Penetration Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, per ASTM E84.
- D. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.
1. Permanent forming/damming/backing materials.
 - a. Slag-wool-fiber or rock-wool-fiber insulation.
 - b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
 - c. Fire-rated form board.

- d. Fillers for sealants.
- 2. Temporary forming materials.
- 3. Substrate primers.
- 4. Collars.
- 5. Steel sleeves.

2.3 FILL MATERIALS

- A. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.
- B. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- C. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.
- D. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.
- E. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.
- F. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- G. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.
- H. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- I. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.

2.4 MIXING

- A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings immediately to comply with manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping materials.
 - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.
 - 3. Remove laitance and form-release agents from concrete.
- B. Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

- A. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.
- B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.
 - 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.
- C. Install fill materials by proven techniques to produce the following results:
 - 1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.
 - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 - 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

- A. Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS," using lettering not less than 3 inches high and with minimum 0.375-inch strokes.
 - 1. Locate in accessible concealed floor, floor-ceiling, or attic space at 15 feet from end of wall and at intervals not exceeding 30 feet.
- B. Penetration Identification: If required by authority having jurisdiction, identify each penetration firestopping system with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of penetration firestopping system edge so labels are visible to anyone seeking to remove penetrating items or firestopping systems. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
 - 1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 - 2. Contractor's name, address, and phone number.
 - 3. Designation of applicable testing and inspecting agency.
 - 4. Date of installation.
 - 5. Manufacturer's name.
 - 6. Installer's name.

3.5 FIELD QUALITY CONTROL

- A. Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E2174.
- B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.
- C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

END OF SECTION 078413

SECTION 078443 - JOINT FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Joints in or between fire-resistance-rated constructions.
- B. Related Requirements:
 - 1. Section 078413 "Penetration Firestopping" for penetrations in fire-resistance-rated walls, horizontal assemblies, and smoke barriers and for wall identification.
 - 2. Section 092216 "Non-Structural Metal Framing" for firestop tracks for metal-framed partition heads.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each joint firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing agency.
 - 1. Engineering Judgments: Where Project conditions require modification to a qualified testing agency's illustration for a particular joint firestopping system condition, submit illustration, with modifications marked, approved by joint firestopping system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Installer Certificates: From Installer indicating joint firestopping has been installed in compliance with requirements and manufacturer's written recommendations.
- C. Product Test Reports: For each joint firestopping system, for tests performed by a qualified testing agency.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm experienced in installing joint firestopping similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements. Manufacturer's willingness to sell its joint firestopping products to Contractor or to Installer engaged by Contractor does not in itself confer qualification on buyer.
- B. Fire-Test-Response Characteristics: Joint firestopping shall comply with the following requirements:
 - 1. Joint firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.
 - 2. Joint firestopping is identical to those tested per testing standard referenced in "Joint Firestopping" Article. Provide rated systems complying with the following requirements:
 - a. Joint firestopping products bear classification marking of qualified testing and inspecting agency.
 - b. Classification markings on joint firestopping correspond to designations listed by the following:
 - 1) UL in its "Fire Resistance Directory."

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install joint firestopping systems when ambient or substrate temperatures are outside limits permitted by joint firestopping system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Install and cure joint firestopping systems per manufacturer's written instructions using natural means of ventilation or, where this is inadequate, forced-air circulation.

1.7 COORDINATION

- A. Coordinate construction of joints to ensure that joint firestopping systems can be installed according to specified firestopping system design.
- B. Coordinate sizing of joints to accommodate joint firestopping systems.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. A/D Fire Protection Systems Inc.

2. Grace Construction Products.
3. Hilti, Inc.
4. Johns Manville.
5. Nelson Firestop Products.
6. NUCO Inc.
7. Passive Fire Protection Partners.
8. RectorSeal Corporation.
9. Specified Technologies Inc.
10. 3M Fire Protection Products.
11. Tremco, Inc.; Tremco Fire Protection Systems Group.
12. USG Corporation.

2.2 JOINT FIRESTOPPING SYSTEMS

- A. Joint Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of assemblies in or between which joint firestopping systems are installed. Joint firestopping systems shall accommodate building movements without impairing their ability to resist the passage of fire and hot gases.
- B. Joints in or between Fire-Resistance-Rated Construction: Provide joint firestopping systems with ratings determined per ASTM E1966 or UL 2079.
 1. Fire-Resistance Rating: Equal to or exceeding the fire-resistance rating of the wall, floor, or roof in or between which it is installed.
 2. F-Rating: Equal to or exceeding the fire-resistance rating of the floor assembly.
- C. Exposed Joint Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E84.
- D. Accessories: Provide components of joint firestopping systems, including primers and forming materials, that are needed to install elastomeric fill materials and to maintain ratings required. Use only components specified by joint firestopping system manufacturer and approved by the qualified testing agency for conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for joint configurations, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Before installing joint firestopping systems, clean joints immediately to comply with fire-resistive joint system manufacturer's written instructions and the following requirements:

1. Remove from surfaces of joint substrates foreign materials that could interfere with adhesion of elastomeric fill materials or compromise fire-resistive rating.
 2. Clean joint substrates to produce clean, sound surfaces capable of developing optimum bond with elastomeric fill materials. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form-release agents from concrete.
- B. Prime substrates where recommended in writing by joint firestopping system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 INSTALLATION

- A. General: Install joint firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming materials and other accessories of types required to support elastomeric fill materials during their application and in position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
1. After installing elastomeric fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of fire-resistive joint system.
- C. Install elastomeric fill materials for joint firestopping systems by proven techniques to produce the following results:
1. Elastomeric fill voids and cavities formed by joints and forming materials as required to achieve fire-resistance ratings indicated.
 2. Apply elastomeric fill materials so they contact and adhere to substrates formed by joints.
 3. For elastomeric fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

- A. Joint Identification: If required by authority having jurisdiction, identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking to remove or joint firestopping system. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
1. The words "Warning - Joint Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 2. Contractor's name, address, and phone number.
 3. Designation of applicable testing agency.
 4. Date of installation.
 5. Manufacturer's name.
 6. Installer's name.

3.5 FIELD QUALITY CONTROL

- A. Inspecting Agency: Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E2393.
- B. Where deficiencies are found or joint firestopping systems are damaged or removed due to testing, repair or replace joint firestopping systems so they comply with requirements.
- C. Proceed with enclosing joint firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

- A. Clean off excess elastomeric fill materials adjacent to joints as the Work progresses by methods and with cleaning materials that are approved in writing by joint firestopping system manufacturers and that do not damage materials in which joints occur.
- B. Provide final protection and maintain conditions during and after installation that ensure joint firestopping systems are without damage or deterioration at time of Substantial Completion. If damage or deterioration occurs despite such protection, cut out and remove damaged or deteriorated joint firestopping systems immediately and install new materials to produce joint firestopping systems complying with specified requirements.

END OF SECTION 078443

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Acoustical joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- D. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

1.6 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two (2) years from date of Substantial Completion.
- B. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Mildew-Resistant, Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation; 898.

2.3 URETHANE JOINT SEALANTS

- A. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use NT.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP 2.
 - b. Bostik, Inc.; Chem-Calk 500.
 - c. May National Associates, Inc.; Bondaflex PUR 2 NS.
 - d. Pecora Corporation; Dynatred.
 - e. Sika Corporation, Construction Products Division; Sikaflex - 2c NS or Sikaflex - 2c EZ Mix.
 - f. Tremco Incorporated; Vulkem 227.
- B. Multicomponent, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use T.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP 2.
 - b. LymTal International, Inc.; Iso-Flex 885 SG.
 - c. May National Associates, Inc.; Bondaflex PUR 2 NS.
 - d. Pecora Corporation; Dynatred.
 - e. Sika Corporation, Construction Products Division; Sikaflex - 2c NS or Sikaflex - 2c EZ Mix.
 - f. Tremco Incorporated; Vulkem 227.

2.4 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. May National Associates, Inc.; Bondaflex 600 or Bondaflex Sil-A 700.
 - d. Pecora Corporation; AC-20+.
 - e. Schnee-Morehead, Inc.; SM 8200.
 - f. Tremco Incorporated; Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation; AC-20 FTR or AIS-919.
 - b. USG Corporation; SHEETROCK Acoustical Sealant.

2.6 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to

comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Joints between plant-precast architectural concrete units.
 - c. Control and expansion joints in unit masonry.
 - d. Joints between metal panels.
 - e. Joints between different materials listed above.
 - f. Perimeter joints between materials listed above and frames of doors, windows and louvers.
 - g. Other joints as indicated.
 - 2. Urethane Joint Sealant: Multicomponent, nonsag,, Class 25.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Tile control and expansion joints.
 - d. Vertical joints on exposed surfaces of walls and partitions.
 - e. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
 - f. Other joints as indicated.
 - 2. Joint Sealant: Latex.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Other joints as indicated.
 2. Joint Sealant: Mildew resistant, single component, nonsag, neutral curing, Silicone.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Location:
 - a. Acoustical joints at interior "acoustical" sound walls at penetrations of and terminations of walls where sound could escape to adjacent rooms.
 - b. Other joints as indicated.
 2. Joint Sealant: Acoustical.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 079200

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior heavy duty steel frames.
- B. Related Requirements:
 - 1. Section 081113 "Hollow Metal Doors and Frames" for hollow-metal doors and frames.
 - 2. Section 087100 "Door Hardware" for door hardware for flush wood doors.

1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.
- B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, fire-resistance ratings, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each frame type.
 - 2. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 - 3. Locations of reinforcement and preparations for hardware.
 - 4. Details of each different wall opening condition.
 - 5. Details of anchorages, joints, field splices, and connections.

6. Details of accessories.
7. Details of moldings, removable stops, and glazing.

- C. Product Schedule: For hollow-metal frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.6 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each type of fire-rated hollow-metal frame assembly for tests performed by a qualified testing agency indicating compliance with performance requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
 1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal frames vertically under cover at Project site with head up. Place on minimum 4-inch high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Amweld International, LLC.
 2. Ceco Door Products; an Assa Abloy Group company.
 3. Curries Company; an Assa Abloy Group company.
 4. Deansteel.
 5. Fleming-Baron Door Products.
 6. Karpen Steel Custom Doors & Frames.
 7. Pioneer Industries, Inc.
 8. Republic Doors and Frames.
 9. Steelcraft; an Ingersoll-Rand company.
- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 HEAVY DUTY STEEL FRAMES

- A. Construct hollow-metal frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Interior Frames: SDI A250.8. At locations indicated in the Door Schedule.
 - 1. Materials: Uncoated steel sheet, minimum thickness of 0.053 inch.
 - 2. Construction: Face welded or Full profile welded.
 - 3. Exposed Finish: Prime.

2.3 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
 - 2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
 - 3. Postinstalled Expansion Anchor: Minimum 3/8-inch diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.
- B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.
- C. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

2.4 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.
- D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

2.5 FABRICATION

- A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.
 - 1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 - 2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

- a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
3. Terminated Stops: Terminate stops 1 inch above finish floor with a 45-degree angle cut, and close open end of stop with steel sheet closure. Cover opening in extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.
- B. Hardware Preparation: Factory prepare hollow-metal frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
 2. Comply with BHMA A156.115 for preparing hollow-metal frames for hardware.

2.6 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.
- B. Drill and tap frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

- A. General: Install hollow-metal frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions. Comply with SDI A250.11 or NAAMM-HMMA 840.
- B. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
 1. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
 2. Install frames with removable stops located on secure side of opening.
- C. Fire-Rated Openings: Install frames according to NFPA 80.

- D. Remove temporary braces necessary for installation only after frames have been properly set and secured.
- E. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances
- F. Floor Anchors: Secure with postinstalled expansion anchors.
 - 1. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
- G. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
 - 1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - 2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - 3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - 4. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

3.3 ADJUSTING, CLEANING, AND TOUCHUP

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- C. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081213

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Solid-core flush wood doors with wood veneer faces.
- 2. Factory finishing flush wood doors.
- 3. Factory fitting flush wood doors to frames and factory machining for hardware.

B. Related Requirements:

- 1. Section 088000 "Glazing" for glass view panels in flush wood doors.

1.3 PREINSTALLATION MEETINGS

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product, including the following:

- 1. Door core materials and construction.
- 2. Door edge construction
- 3. Door face type and characteristics.
- 4. Door louvers.
- 5. Door trim for openings.
- 6. Door frame construction.
- 7. Factory-machining criteria.
- 8. Factory finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

- 1. Door schedule indicating door location, type, size, fire protection rating, and swing.
- 2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
- 3. Details of frame for each frame type, including dimensions and profile.
- 4. Dimensions and locations of blocking for hardware attachment.
- 5. Dimensions and locations of mortises and holes for hardware.
- 6. Clearances and undercuts.
- 7. Requirements for veneer matching.
- 8. Doors to be factory finished and application requirements.

C. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish. For each wood species and transparent finish, provide set of three Samples showing typical range of color and grain to be expected in finished Work.
2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.
3. Frames for light openings, 6 inches long, for each material, type, and finish required.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For special warranty.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Vendor Qualifications: A vendor that is certified for chain of custody by an FSC-accredited certification body.
- C. Source Limitations: Obtain flush wood doors and wood paneling from single manufacturer.
- D. Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated."
1. Provide AWI Quality Certification Labels or an AWI letter of licensing for Project indicating that doors comply with requirements of grades specified.
- E. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.

1.9 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Delamination of veneer.
 - b. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
 - c. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
 - 2. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain flush wood doors from single manufacturer.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Algoma Hardwoods, Inc.
 - 2. Eagle Plywood & Door Manufacturing, Inc .
 - 3. Eggers Industries.
 - 4. Graham; an Assa A bloy Group company.
 - 5. Mohawk Flush Doors, Inc.; a Masonite company.
 - 6. VT Industries Inc.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Rated Wood Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated on Drawings, based on testing at positive pressure in accordance with NFPA 252.

2.3 FLUSH WOOD DOORS, GENERAL

- A. Certified Wood: Wood doors shall be certified as "FSC Pure" or "FSC Mixed Credit" according to FSC STD-01-001 and FSC STD-40-004.
- B. Adhesives: Use adhesives that meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Composite Wood Products: Products shall be made using ultra-low-emitting formaldehyde resins as defined in the California Air Resources Board's "Airborne Toxic Control Measure to Red

uce Formaldehyde Emissions from Composite Wood Products" or shall be made with no added formaldehyde.

D. Structural-Composite-Lumber-Core Doors:

1. Structural Composite Lumber: WDMA I.S.10.

a. Screw Withdrawal, Edge: 400 lbf.

E. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated.

1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.

2. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.

3. Pairs: Provide formed-steel edges and astragals with intumescent seals.

a. Finish steel edges and astragals with baked enamel same color as doors.

b. Finish steel edges and astragals to match door hardware (locksets or exit devices).

F. Mineral-Core Doors:

1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.

2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware.

3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

2.4 SOLID-CORE FIVE-PLY FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Solid-Core Doors:

1. Grade: Premium, with Grade A faces.

2. Species: Select white maple.

3. Cut: Plain sliced (flat sliced).

4. Match between Veneer Leaves: Book match.

5. Assembly of Veneer Leaves on Door Faces: Balance match.

6. Room Match: Match door faces within each separate room or area of building. Corridor-door faces do not need to match where they are separated by 10 feet or more.

7. Core: Either glued wood stave or structural composite lumber.

8. Construction: Five (5) plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering. Faces are bonded to core using a hot press.

2.5 LIGHT FRAMES AND LOUVERS

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.
 - 1. Wood Species: Same species as door faces.
 - 2. Profile: Manufacturer's standard shape.
 - 3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.
- B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated on Drawings. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.

2.6 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated.
 - 1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 - 2. Comply with NFPA 80 requirements for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied.
 - 1. Locate hardware to comply with DHI-WDHS-3.
 - 2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
 - 3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
- C. Openings: Factory cut and trim openings through doors.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.
 - 2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."

2.7 FACTORY FINISHING

- A. Comply with referenced quality standard for factory finishing.
 - 1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
 - 2. Finish faces, all four edges, edges of cutouts, and mortises.
 - 3. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- B. Factory finish doors.
- C. Transparent Finish:

1. Grade: Premium.
2. Finish: AWI catalyzed polyurethane system.
3. Staining: As selected by Architect from manufacturer's full range.
4. Effect: Semifilled finish, produced by applying an additional finish coat to partially fill the wood pores.
5. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
 1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Section 087100 "Door Hardware."
- B. Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
- C. Install frames level, plumb, true, and straight.
 1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
 2. Anchor frames to anchors or blocking built in or directly attached to substrates.
 - a. Secure with countersunk, concealed fasteners and blind nailing.
 - b. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.
 - 1) For factory-finished items, use filler matching finish of items being installed.
 3. Install fire-rated doors and frames in accordance with NFPA 80.
- D. Job-Fitted Doors:
 1. Align and fit doors in frames with uniform clearances and bevels as indicated below.
 - a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.
 2. Machine doors for hardware.

3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
4. Clearances:
 - a. Provide 1/8 inch at heads, jambs, and between pairs of doors.
 - b. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
 - c. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
 - d. Comply with NFPA 80 for fire-rated doors.
5. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.
6. Bevel fire-rated doors 1/8 inch in 2 inches at lock edge; trim stiles and rails only to extent permitted by labeling agency.

E. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

F. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Mechanical door hardware for the following:

- a. Swinging doors.

- B. Related Requirements:

- 1. Section 064116 "Plastic-Laminate-Clad Architectural Cabinets" for cabinet door hardware provided with cabinets.
 - 2. Section 081213 "Hollow Metal Frames"
 - 3. Section 081416 "Flush Wood Doors"

1.3 COORDINATION

- A. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.
- C. Security: Coordinate installation of door hardware and keying with Owner's security consultant if required by owner.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples: For each exposed product in each finish specified, in manufacturer's standard size.

1. Tag Samples with full product description to coordinate Samples with door hardware schedule.
- C. Samples for Verification: For each type of exposed product, in each finish specified.
 1. Sample Size: Full-size units or minimum 2-by-4-inch Samples for sheet and 4-inch long Samples for other products.
 - a. Full-size Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
 2. Tag Samples with full product description to coordinate Samples with door hardware schedule.
- D. Door Hardware Schedule: Prepared by or under the supervision of Installer's Architectural Hardware Consultant. Coordinate door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 1. Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.
 2. Format: Use same scheduling sequence and format and use same door numbers as in door hardware schedule in the Contract Documents.
 3. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, size, and material of each door and frame.
 - b. Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
 - c. Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
 - d. Fastenings and other installation information.
 - e. Explanation of abbreviations, symbols, and designations contained in door hardware schedule.
 - f. Mounting locations for door hardware.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and material supplier's Architectural Hardware Consultant. The installer must have five years of successful experience with door hardware installations similar to this project. References will be required. The Architectural Hardware Consultant must be certified by the Door and Hardware Institute and in good standing.
- B. Product Certification: For compliance with accessibility and this specification's requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.

- C. Warranty: Special warranties specified in this Section.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of door hardware to include in maintenance manuals.
- B. Schedules: Final door hardware and keying schedule.

1.7 MAINTENANCE SERVICE

- A. Maintenance Service: Beginning at Substantial Completion, provide six (6) months full maintenance service by skilled employees of door hardware installer. Adjust door hardware as necessary to provide proper function.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: Company must have workers with at least five years of successful installation experience. Submit list of successfully completed projects with dates of completion and references.
 - 1. Warehousing Facilities: Within 200 miles of project's location.
 - 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this project and who is currently certified by DHI and in good standing.
- C. Source Limitations: Obtain each type of door hardware from a single manufacturer.
- D. Smoke- and Draft-Control Door Assemblies: Where smoke and draft-control door assemblies are indicated, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
 - 1. Air Leakage Rate: Maximum air leakage of 0.3 cfm/sq. ft. at the tested pressure differential of 0.3-inch wg of water.
- E. Means of Egress Doors: Latches do not require more than 15 lbf to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.
- F. Accessibility Requirements: For door hardware on doors in an accessible route, comply with ADA-ABA Accessibility Guidelines.
 - 1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf.
 - 2. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf applied perpendicular to door.
 - 3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch high.

4. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to Owner by registered mail or overnight package service.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within the specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of doors and door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 2. Warranty Period: One (1) year from date of Substantial Completion unless otherwise indicated.
 - a. Exit devices: Five (5) years from date of Substantial Completion.
 - b. Manual closers: Ten (10) years from date of Substantial Completion.
 - c. Locks: Seven (7) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled in Part 3 "Door Hardware Schedule" article to comply with requirements in this section.
 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:

1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required.
2. References to BHMA Designations: Provide products complying with these designations and requirements for description, quality, and function.

2.2 HINGES

A. Hinges: BHMA A156.1. Provide template-produced hinges.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the listed manufacturers.
 - a. See list of acceptable products at the end of this section.

2.1 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

1. Mortise Locks: Minimum 3/4" latchbolt throw.
2. Cylindrical Locks: Minimum 5/8" latchbolt throw.

C. Lock Backset: 2-3/4 inches, unless otherwise indicated.

D. Lock Trim:

1. Description: As indicated in the hardware sets.
2. Levers: Cast.
3. Escutcheons (Roses): Wrought

E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

1. Curved-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.

F. Mortise Locks: BHMA A156.13; Grade 1 Series 1000.

1. Manufacturers: See list of acceptable products at the end of this section.

G. Cylindrical Locks: BHMA A156.2; Grade 1 Series 4000 Certified.

1. Manufacturers: See list of acceptable products at the end of this section.

2.2 MANUAL FLUSH BOLTS

- A. Manual Flush Bolts: BHMA A156.16; minimum 3/4-inch throw; designed for mortising into door edge.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the listed manufacturers.
 - a. See list of acceptable products at the end of this section

2.3 LOCK CYLINDERS

- A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.
 - 1. Manufacturer: Same as the lock manufacturer.
- B. Standard Lock Cylinders: BHMA A156.5; Grade 1; face finished to match lockset.

2.4 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in a keying conference.
 - 1. Key all new locks to match existing building keying system. Confirm compatibility with existing locks.
- B. Keys: Nickel silver.
 - 1. Provide 3 keys per new lock.

2.5 SURFACE DOOR CLOSERS

- A. Surface Door Closers: BHMA A156.4; Grade 1, rack-and-pinion hydraulic type with adjustable sweep and latch speeds and backcheck controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force. All door closers to be adjusted to meet ADA requirements upon installation.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the listed manufacturers.
 - a. See list of acceptable products at the end of this section.

2.6 MECHANICAL STOPS AND HOLDERS

- A. Wall- and Floor-Mounted Stops: BHMA A156.16; Cast brass, bronze, or stainless-steel base metal; face finished to match lockset.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the listed manufacturers.
 - a. See list of acceptable products at the end of this section.

2.7 DOOR GASKETING

- A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the listed manufacturers.
 - a. See list of acceptable products at the end of this section.

2.8 AUXILIARY DOOR HARDWARE

- A. Auxiliary Hardware: BHMA A156.16.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. See list of acceptable products at the end of this section.

2.9 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
 - 1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.
- C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not

permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
2. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors." Supply threaded to the head wood screws for all attachments to wood doors.
3. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.10 FINISHES

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before installation.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
- B. Wood Doors: Comply with DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."

3.3 INSTALLATION

- A. Mounting Heights: Use hollow metal manufacturer's standard locations unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Thresholds: Re-set existing thresholds for exterior doors and set thresholds for other doors indicated in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- E. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.
- F. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- G. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Adjust sweep, latching, and backcheck speeds for proper function and to comply with ADA accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately six months after the date of substantial completion, installer shall examine and readjust each item of door hardware, including adjusting operating forces of door closers, as necessary to ensure the proper function of doors, door hardware, and electrified door hardware.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE

HW-1 A107, A110

3 EACH HINGE T4A3786 4 ½ X 4 ½ US26D
1 EACH LOCKSET 21-FW-10G37 LP US26D
1 EACH WALL STOP 403 US26D
3 EACH SILENCERS 608

HW-2 A132

3 EACH HINGE T4A3786 4 ½ X 4 ½ US26D
1 EACH LOCKSET 21-FW-10G04 LP US26D
1 EACH O H STOP 590S US26D
3 EACH SILENCERS 608

ACCEPTABLE PRODUCTS

HINGES

<u>HAGER</u>	<u>McKINNEY</u>	<u>IVES</u>
BB1168	T4A3786	5BB1HW 652

LOCKS

<u>SARGENT</u>	<u>SCHLAGE</u>	<u>COR/RUSS</u>
FW10 LINE	ND SPA VANDLGUARD	CL3300 PZD

DEVICES

<u>SARGENT</u>	<u>VON DUPRIN</u>	<u>COR/RUS</u>
80 SERIES	98 SERIES	ED5000 SERIES

CLOSERS

<u>SARGENT</u>	<u>LCN</u>	<u>NORTON</u>
351 SERIES	4040XP	7500

AUXILIARY HARDWARE

<u>TRIMCO</u>	<u>ROCKWOOD</u>	<u>HAGER</u>
1270CV	403	234W
1215	445	244F
1229A	608	307D

END OF SECTION 087100

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Non-load-bearing steel framing systems for interior partitions.
- 2. Suspension systems for interior ceilings and soffits.
- 3. Grid suspension systems for gypsum board ceilings.

B. Related Requirements:

- 1. Section 072100 "Acoustic Insulation" for sound attenuating blankets used where indicated on drawings.
- 2. Section 092900 "Gypsum Board" for gypsum board assemblies and acoustic sealants to be used where indicated on drawings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For dimpled steel studs and runners, and firestop tracks, from ICC-ES.

1.5 QUALITY ASSURANCE

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E119 by an independent testing agency.

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C645 requirements for steel unless otherwise indicated.
 - 2. Protective Coating: ASTM A653/A653M, G40 hot-dip galvanized unless otherwise indicated.
- B. Studs and Tracks: ASTM C645. Use either conventional steel studs and tracks or dimpled, high-strength steel studs and tracks.
 - 1. Steel Studs and Tracks:
 - a. Minimum Base-Steel Thickness: 0.029 inch
 - b. Depth: As indicated on Drawings.
 - 2. Steel Studs and Tracks:
 - a. Minimum Base-Steel Thickness: 0.025 inch
 - b. Depth: As indicated on Drawings.
- C. Slip-Type Head Joints: Where indicated, provide one of the following:
 - 1. Single Long-Leg Track System: ASTM C645 top track with 2-inch deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top track and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.
 - 2. Deflection Track: Steel sheet top track manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Dietrich Metal Framing; SLP-TRK Slotted Deflection Track.
 - 2) Steel Network Inc. (The); VertiClip SLD or VertiTrack VTD Series.
 - 3) Superior Metal Trim; Superior Flex Track System (SFT).
- D. Firestop Tracks: Top track manufactured to allow partition heads to expand and contract with movement of structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
 - 1. Products: Subject to compliance with requirements available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fire Trak Corp.; Fire Trak System attached to studs with Fire Trak Posi Klip.
 - b. Grace Construction Products; FlameSafe FlowTrak System.
 - c. Metal-Lite, Inc.; The System.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Minimum Base-Steel Thickness: 0.027 inch.

- F. Cold-Rolled Channel Bridging: Steel, 0.053-inch minimum base-steel thickness, with minimum 1/2-inch wide flanges.

1. Depth: 1-1/2 inches.
2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch thick, galvanized steel.

2.3 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.062-inch diameter wire, or double strand of 0.048-inch diameter wire.
- B. Wire Hangers: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.16 inch in diameter.

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide one of the following:
1. Asphalt-Saturated Organic Felt: ASTM D226/D226M, Type I (No. 15 asphalt felt), nonperforated.
 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C754.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.

- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.3 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Single-Layer Application: 16 inches unless otherwise indicated.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
- E. Direct Furring:
 - 1. Screw to wood framing.
 - 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.4 INSTALLING CEILING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Hangers: 48 inches o.c.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
 - 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 4. Do not attach hangers to steel roof deck.
 - 5. Do not attach hangers to permanent metal forms.
 - 6. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
 - 7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- E. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 092216

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
- B. Related Requirements:
 - 1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product, including trim accessories.

1.4 QUALITY ASSURANCE

- A. Mockups: Build mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and to set quality standards for materials and execution.
 - 1. Build mockups for the following:
 - a. Level 4 gypsum board finish indicated for use in exposed locations.
 - 2. Apply or install final decoration indicated, including painting and wallcoverings, on exposed surfaces for review of mockups.
 - 3. Simulate finished lighting conditions for review of mockups.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

1.7 EXISTING GYPSUM BOARD

- A. Patch and repair imperfections in existing gypsum board walls to remain in new work. Such imperfections include, but are not limited to, nail or screw holes, scratches, gouges, cracks, holes, abandon anchors, etc. Requirements for new gypsum board shall also apply to the patching and repairing of existing gypsum board.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. American Gypsum.
 - 2. CertainTeed Corp.
 - 3. Georgia-Pacific Gypsum LLC.
 - 4. Lafarge North America Inc.
 - 5. National Gypsum Company.
 - 6. PABCO Gypsum.
 - 7. Temple-Inland.
 - 8. USG Corporation.

- B. Abuse-Resistant Gypsum Board: ASTM C1396/C1396M gypsum board, tested according to ASTM C1629/C1629M.
 - 1. Core: 5/8 inch, Type X.
 - 2. Long Edges: Tapered.
 - 3. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C1047.
 - 1. Shape: Cornerbead
Material: Galvanized or aluminum-coated steel sheet or rolled zinc
 - 2. Shape: LC-Bead: J-shaped; exposed long flange receives joint compound
Material: Vinyl

2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 - 5. Skim Coat: For final coat of Level 4 finish, use drying-type, all-purpose compound or high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 4 finish.

2.6 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

- C. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
 - 1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
- D. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- E. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840.
- B. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- C. Locate edge and end joints over supports. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- D. Form control and expansion joints with space between edges of adjoining gypsum panels.
- E. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch wide joints to install sealant.

- F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- H. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- I. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Type X: Where required for fire-resistance-rated assembly
 - 2. Abuse-Resistant Type: For all walls and vertical surfaces not required to be Type X for fire resistance rating.
- B. Single-Layer Application:
 - 1. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - 2. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLATION OF TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners unless otherwise indicated.
 - 2. LC-Bead: Use at exposed panel edges and where indicated on drawings.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for interior ceilings.
- B. Related Requirements:
- C. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, 6 inches in size.
- C. Samples for Initial Selection: For components with factory-applied finishes.
- D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:
 - 1. Acoustical Panel: Set of 6-inch-square Samples of each type, color, pattern, and texture.
 - 2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch-long Samples of each type, finish, and color.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- 1. Acoustical Ceiling Panels: 10-15 Full-size panels
- 2. Suspension Grid: Equal to 2 percent of quantity installed.
- 3. Hold-Down Clips: Equal to 2 percent of quantity installed

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.
 - 2. Smoke-Developed Index: 50 or less.
- B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.3 ACOUSTICAL PANELS (ACT1)

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong Fine Fissured Lay-in #1810 or comparable product by one of the following:

1. Armstrong World Industries, Inc.
 2. CertainTeed Corp.
 3. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Classification: Provide fire-resistance-rated panels complying with ASTM E 1264 for type, form, and pattern as follows:
- C. Color: White
- D. Surface Texture: Medium
- E. Composition: Wet Formed Mineral Fiber
- F. Light Reflectance (LR): Not less than 0.80.
- G. Ceiling Attenuation Class (CAC): Not less than 35.
- H. Noise Reduction Coefficient (NRC): Not less than .55.
- I. Edge/Joint Detail: Square Lay in 15/16in.
- J. Thickness: 5/8-inch.
- K. Modular Size: 24 by 24 inches.

2.4 METAL SUSPENSION SYSTEM

- A. Basis-of-Design Product: Subject to compliance with requirements, Armstrong Prelude XL or comparable product by one of the following:
1. Armstrong World Industries, Inc.
 2. CertainTeed Corp.
 3. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Wide-Face, Capped, Double-Web, Fire-Rated, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation; with prefinished 15/16-inch-wide metal caps on flanges.
1. Structural Classification: Intermediate-duty system.
 2. End Condition of Cross Runners: Override (stepped) or butt-edge type.
 3. Face Design: Flat, flush.
 4. Cap Material: Steel cold-rolled sheet.
 5. Cap Finish: Painted white

2.5 METAL EDGE MOLDINGS AND TRIM

- A. Extruded-Aluminum Edge Moldings and Trim: Where indicated, provide manufacturer's extruded-aluminum edge moldings and trim of profile indicated or referenced by manufacturer's designations, including splice plates, corner pieces, and attachment and other clips, complying with seismic design requirements and the following:

1. Aluminum Alloy: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of aluminum extrusions complying with ASTM B 221 (ASTM B 221M) for Alloy and Temper 6063-T5.
2. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
3. Baked-Enamel or Powder-Coat Finish: Minimum dry film thickness of 1.5 mils. Comply with ASTM C 635/C 635M and coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and Cisca's "Ceiling Systems Handbook."
- B. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.

- B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Rubber base.
 - 2. Vinyl molding accessories.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.
- C. Product Schedule: For resilient base and accessory products. Use same designations indicated on Drawings.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.6 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F in spaces to receive resilient products during the following periods:

1. 48 hours before installation.
 2. During installation.
 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 THERMOPLASTIC-RUBBER BASE (RB1)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Armstrong World Industries, Inc.
 2. Johnsonite; a Tarkett company.
 3. Roppe Corporation, USA.
- B. Product Standard: ASTM F1861, Type TP (rubber, thermoplastic).
1. Group: I solid, homogeneous.
 2. Style and Location:
 - a. Style B, Cove
- C. Thickness: 0.125 inch.
- D. Height: 4 inches.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Job formed.
- G. Inside Corners: Job formed.
- H. Colors: As indicated on Drawings.

2.2 VINYL MOLDING ACCESSORY (T-1)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Armstrong World Industries, Inc.
 2. Johnsonite; a Tarkett company.
 3. Roppe Corporation, USA.

- B. Description: Vinyl transition strip.
- C. Profile and Dimensions: 1/8" or 1/16" material to floor, 1-5/8"W
- D. Locations: As indicated on drawings.
- E. Colors and Patterns: As indicated on drawings

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.
- H. Job-Formed Corners:
 - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.
 - a. Form without producing discoloration (whitening) at bends.
 - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.
 - a. Miter corners to minimize open joints.

3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:
 - 1. Remove adhesive and other blemishes from surfaces.

- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

THIS PAGE INTENTIONALLY LEFT BLANK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Vinyl composition floor tile.

- B. Related Requirements:

- 1. Section 096513 "Resilient Base and Accessories" for wall base and accessories installed with flooring
 - 2. Section 012100 "Allowances" for additional locations of vinyl compositional floor tile installation.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: For each type of resilient floor tile.

- 1. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
 - 2. Show details of special patterns.

- C. Samples: Full-size units of each color, texture, and pattern of floor tile required.

- D. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

- B. Warranty: Warranty documents specified herein.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.
 - a. If allowance #2 is not accepted, provide an additional 250 sf of extra materials.
 - b. If allowance #3 is not accepted, provide an additional 250 sf of extra materials.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.
 - 1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

1.8 LIMITED WARRANTY

- A. Resilient Flooring: Submit a written warranty executed by the manufacturer, agreeing to repair or replace resilient flooring that fails within the warranty period.
- B. Limited Warranty Period: 5 years
- C. Limited Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the contract documents and will be in addition to and run concurrent with other warranties made by the contractor under requirements of the Contract Documents.
- D. For the Limited Warranty to be valid, this product is required to be installed appropriate installation system provided by manufacturer. Product installed not using the specific instructions from the guaranteed installation system will void the warranty.
 - a. Installation over existing flooring, requirements for existing flooring:
 - 1) Not textured or embossed enough to show through the new installation
 - 2) Only a single layer of flooring
 - 3) Existing conditions are above grade level
 - 4) Full and firmly bonded
 - 5) Waxes, polishes, and other finishes must be properly removed with a recommended floor stripper
 - 6) Indentions or damaged areas must be replaced or repaired

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.10 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 VINYL COMPOSITION FLOOR TILE (VCT1,2)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. Johnsonite; a Tarkett company.
 - 3. Mannington Mills, Inc.
- B. Tile Standard: ASTM F 1066, Class 1, solid color, and Class 2, through pattern.
- C. Wearing Surface: Smooth.
- D. Thickness: 0.125 inch.
- E. Size: 12 by 12 inches.
- F. Colors and Patterns: As indicated on Drawings.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.
- C. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing.
 - 4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 85 percent relative humidity level measurement.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

- D. Do not install floor tiles until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 - 1. Lay tiles square with room axis and as indicated on Drawings.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
 - 1. Lay VCT tiles with grain direction alternating in adjacent tiles (basket-weave pattern).
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- H. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.
- B. Perform the following operations immediately after completing floor tile installation:

1. Remove adhesive and other blemishes from surfaces.
 2. Sweep and vacuum surfaces thoroughly.
 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.
1. Apply Manufacturer's recommended number of coat(s).
- E. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates
 - 1. Concrete.
 - 2. Concrete masonry units (CMU).
 - 3. Steel.
 - 4. Galvanized metal.
 - 5. Gypsum board.
 - 6. Wood
 - 7. Where indicated in other parts of this specification section
 - 8. Where indicated on drawings and other specification sections
- B. Related Requirements:
 - 1. Section 051200 "Structural Steel Framing" for shop priming of metal substrates with primers specified in this Section.
 - 2. Section 099113 "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
 - 3. VOC content.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

PART 3 - MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following
1. Benjamin Moore & Co.
 2. ICI Paints.
 3. PPG Architectural Finishes, Inc.
 4. Sherwin-Williams Company (The).

3.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:
1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
1. Flat Paints and Coatings: 50 g/L.
 2. Nonflat Paints and Coatings: 150 g/L.
 3. Dry-Fog Coatings: 400 g/L.
 4. Primers, Sealers, and Undercoaters: 200 g/L.
 5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
 6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
 7. Pretreatment Wash Primers: 420 g/L.
 8. Floor Coatings: 100 g/L.
 9. Shellacs, Clear: 730 g/L.
 10. Shellacs, Pigmented: 550 g/L.
- D. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- E. Colors: As indicated on drawings
1. 10 percent of surface area will be painted with deep tones.

3.3 BLOCK FILLERS

- A. Block Filler, Latex, Interior/Exterior: MPI #4.
 - 1. VOC Content E Range E2

3.4 PRIMERS/SEALERS

- A. Primer Sealer, Latex, Interior: MPI #50.
 - 1. VOC Content E Range E2

3.5 METAL PRIMERS

- A. Primer, Galvanized, Water Based: MPI #134.
 - 1. VOC Content E Range E2

3.6 WATER-BASED PAINTS

- A. Latex, Interior, (Gloss Level 3): MPI #52.
 - 1. VOC Content E Range E2
- B. Gloss, (Gloss Level 5): MPI #54.
 - 1. VOC Content E Range E2
- C. Latex, Interior, High Performance Architectural, Semi-Gloss (Gloss Level 5): MPI #141.
 - 1. VOC Content E Range E2
- D. Light Industrial Coating, Interior, Water Based, Semi-Gloss (Gloss Level 5): MPI #153.
 - 1. VOC Content E Range E2

3.7 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove

noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 4 - EXECUTION

4.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Masonry (Clay and CMU): 12 percent.
 - 3. Wood: 15 percent.
 - 4. Gypsum Board: 12 percent.
 - 5. Plaster: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

4.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceed that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- I. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.
- J. Wood Substrates:
 - 1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

4.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. This Section includes surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.
- F. Paint exposed surfaces whether or not designated in "schedules," except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.
- G. Painting is not required on prefinished items, finished metal surfaces, concealed surfaces, operating parts, and labels.
 - 1. Prefinished items not to be painted include the following factory-finished components:
 - a. Toilet enclosures.
 - b. Acoustic materials.
 - c. Architectural woodwork and casework.
 - d. Finished mechanical and electrical equipment.
 - e. Light fixtures.
 - f. Switchgear.
 - g. Distribution cabinets.
 - 2. Concealed surfaces not to be painted include wall or ceiling surfaces in inaccessible areas.
 - 3. Finished metal surfaces not to be painted include:
 - a. Anodized or factory finished aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper.
 - 4. Operating parts not to be painted include moving parts of operating equipment such as the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.

5. Labels: Do not paint over Underwriter's Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- H. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed in equipment rooms:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.
 - h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - i. Motors and mechanical equipment.
 - j. Accessory items.
 - k. Exposed work in equipment rooms where indicated on other drawings and specification sections.
 2. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - h. Motors and mechanical equipment.
 - i. Accessory items.
 - j. Exposed work in occupied spaces where indicated on other drawings and specification sections.
 3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

4.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and

apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

4.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

4.6 INTERIOR PAINTING SCHEDULE

A. CMU Substrates:

- 1. High-Performance Architectural Latex System: INT 4.2D
 - a. Block Filler: Block filler, latex, interior/exterior, MPI #4.
 - b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.
 - c. Topcoat: Latex, interior, high performance architectural, semi-gloss (Gloss Level 5), MPI #141
- 2. Epoxy System For Wet Environments: INT 4.2G
 - a. Block Filler: Epoxy Block Filler, MPI #4
 - b. Intermediate Coat: Epoxy, MPI #77
 - c. Topcoat: Epoxy matching intermediate coat, MPT #77

B. Steel Substrates:

- 1. High Performance Architectural Latex, INT 5.1R
 - a. Prime Coat: Primer, alkyd metal primer, anti-corrosive for metal, MPI #79
 - b. Intermediate Coat: HIPAC Latex, semi-gloss, MPI #141
 - c. Topcoat: HIPAC Latex, semi-gloss, MPI #141

C. Galvanized-Metal Substrates:

- 1. High-Performance Architectural Latex System: INT 5.3M
 - a. Prime Coat: Primer, galvanized, water based, MPI #134.

- b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.
- c. Topcoat: Latex, interior, high performance architectural, semi-gloss (Gloss Level 5), MPI #141.

D. Gypsum Board Substrates:

1. High-Performance Architectural Latex System: INT 9.2B

- a. Prime Coat: Primer sealer, latex, interior, MPI #50.
- b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.
- c. Topcoat: Latex, interior, high performance architectural, (Gloss Level 3), MPI #139.
- d. Topcoat: Latex, interior, high performance architectural, semi-gloss (Gloss Level 5), MPI #141.

END OF SECTION 099123

SECTION 101100 - VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Markerboards

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for visual display surfaces.
- B. Shop Drawings: For visual display surfaces. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Include sections of typical trim members.
- C. Samples for Initial Selection: For each type of visual display surface indicated, for units with factory-applied color finishes, and as follows:
 - 1. Actual sections of porcelain-enamel face sheet
 - 2. Include accessory Samples to verify color selected.
- D. Samples for Verification: For each type of visual display surface indicated.
 - 1. Visual Display Surface: Not less than 8-1/2 by 11 inches, mounted on substrate indicated for final Work. Include one panel for each type, color, and texture required.
 - 2. Trim: 6-inch-long sections of each trim profile.
 - 3. Display Rail: 6-inch-long sections.
 - 4. Accessories: Full-size Sample of each type of accessory.
- E. Product Schedule: For visual display surfaces. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for surface-burning characteristics of fabrics.
- C. Warranties: Sample of special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For visual display surfaces to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of motor-operated, sliding visual display units required for this Project.
- B. Source Limitations: Obtain visual display surfaces from single source from single manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-built visual display surfaces completely assembled in one piece without joints, where possible. If dimensions exceed maximum manufactured panel size, provide two (2) or more pieces of equal length as acceptable to Architect. When overall dimensions require delivery in separate units, prefabricate components at the factory, disassemble for delivery, and make final joints at the site.
- B. Store visual display surfaces vertically with packing materials between each unit.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install visual display surfaces until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.9 WARRANTY

- A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer's standard form in which manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
 - a. Surfaces lose original writing and erasing qualities.
 - b. Surfaces exhibit crazing, cracking, or flaking.
2. Warranty Period: Fifty (50) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Porcelain-Enamel Face Sheet: Manufacturer's standard steel sheet with porcelain-enamel coating fused to steel; uncoated thickness indicated.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Claridge Products and Equipment, Inc.
 - b. PolyVision Corporation; a Steelcase company.
 - c. Approved equal
 2. Matte Finish: Low reflective; marker wipes clean with dry cloth or standard eraser.
- B. Extruded Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063.

2.2 MARKERBOARD ASSEMBLIES (MB)

- A. Porcelain-Enamel Markerboards: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction consisting of backing sheet, core material, and porcelain-enamel face sheet with low-gloss finish.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Claridge Products and Equipment, Inc.
 - b. PolyVision Corporation; a Steelcase company.
 - c. Approved equal
 2. Hardboard CorE: 7/16"-thick, with aluminum foil backing, made without added urea-formaldehyde.
 3. Laminating Adhesive: Manufacturer's standard, moisture-resistant thermoplastic type.
 4. Color: White, low gloss.

2.3 MARKERBOARD ACCESSORIES

- A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch-thick, extruded aluminum; standard size and shape.
 - 1. Factory-Applied Trim: Manufacturer's standard.
 - 2. Aluminum Finish: Clear Anodized
- B. Marker Tray: Manufacturer's standard, continuous, solid type: extruded aluminum with ribbed section and injection molded end closures.

2.4 FABRICATION

- A. Porcelain-Enamel Visual Display Assemblies: Laminate porcelain-enamel face sheet and backing sheet to core material under heat and pressure with manufacturer's standard flexible, waterproof adhesive.
- B. Visual Display Boards: Factory assemble visual display boards unless otherwise indicated.
 - 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display boards at manufacturer's factory before shipment.
- C. Factory-Assembled Visual Display Units: Coordinate factory-assembled units with trim and accessories indicated. Join parts with a neat, precision fit.
 - 1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Architect.
 - 2. Where size of visual display boards or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.
- D. Aluminum Frames and Trim: Fabricate units straight and of single lengths, keeping joints to a minimum. Miter corners to a neat, hairline closure.
 - 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display units at manufacturer's factory before shipment.

2.5 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.
- B. Examine walls and partitions for proper preparation and backing for visual display surfaces.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances that could impair the performance of and affect the smooth, finished surfaces of visual display boards, including dirt, mold, and mildew.
- C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display surfaces and wall surfaces.

3.3 INSTALLATION, GENERAL

- A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.
- B. Factory-Fabricated Markerboards: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display board assemblies with fasteners at not more than 16 inches o.c. Secure tops and bottoms of boards to walls.

3.4 CLEANING AND PROTECTION

- A. Clean visual display surfaces according to manufacturer's written instructions. Attach one cleaning label to visual display surface in each room.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.
- C. Cover and protect visual display surfaces after installation and cleaning.

END OF SECTION 101100

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 123623 - PLASTIC-LAMINATE-CLAD COUNTERTOPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes plastic-laminate countertops.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product, including panel products, high-pressure decorative laminate and adhesive for bonding plastic laminate
- B. Sustainable Design Submittals
 - 1. Product Certificates: For indigenous materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project, means of transportation, and cost for each indigenous material.
 - 2. Chain-of-Custody Certificates: For certified wood products. Include statement of costs.
 - 3. Product Data: For composite wood products, indicating compliance with requirements for formaldehyde emissions.
 - 4. Product Data: For installation adhesives, indicating VOC content.
 - 5. Laboratory Test Reports: For installation adhesives, indicating compliance with requirements for low-emitting materials.
- C. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in plastic-laminate countertops.
 - 2. Apply AWI or WI Certified Compliance Program label to Shop Drawings.
- D. Samples for Verification:
 - 1. Plastic laminates, 8 by 10 inches, for each color, pattern, and surface finish, with one sample applied to core material and specified edge material applied to one edge.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and fabricator.
- B. Product Certificates: For the following:
 - 1. Composite wood and agrifiber products.
 - 2. High-pressure decorative laminate.
 - 3. Adhesives.
- C. Woodwork Quality Standard Compliance Certificates: AWI or WI Certified Compliance Program certificates.
- D. Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a licensee of AWI or WI's Certified Compliance Program.
- B. Installer Qualifications: Licensee of AWI or WI's Certified Compliance Program.
- C. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver countertops until painting and similar operations that could damage countertops have been completed in installation areas. If countertops must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during the remainder of the construction period.
- C. Field Measurements: Where countertops are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate

measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- D. Established Dimensions: Where countertops are indicated to fit to other construction, establish dimensions for areas where countertops are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE COUNTERTOPS

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades indicated for construction, installation, and other requirements.
 - 1. Provide labels and certificates from AWI or WI certification program indicating that countertops, including installation, comply with requirements of grades specified.
 - 2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.
- B. Grade: Custom
- C. Regional Materials: Plastic-laminate countertops shall be manufactured within 500 miles of Project site.
- D. High-Pressure Decorative Laminate: NEMA LD 3, Grade HGS
- E. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 1. Grain Direction: Parallel to cabinet fronts.
- F. Edge Treatment: 3-mm PVC edging on countertops, matching laminate color, pattern, and finish
- G. Core Material: Medium-density fiberboard core, thickness as indicated
 - 1. Build up countertop thickness to 1-1/2 inches at front, back, and ends with additional layers of core material laminated to top.
- H. Backer Sheet: Provide plastic-laminate backer sheet, NEMA LD 3, Grade BKL on underside of countertop substrate.

2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard unless otherwise indicated.

- B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
1. Recycled Content of Medium-Density Fiberboard and Particleboard: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 20 percent.
 2. Composite Wood and Agrifiber Products: Products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
 3. Medium-Density Fiberboard: ANSI A208.2, MD made with binder containing no urea formaldehyde.
 4. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde
 5. Particleboard: Straw-based particleboard complying with requirements in ANSI A208.1, Grade M-2, except for density.
 6. Softwood Plywood: DOC PS 1.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
1. Use treated materials that comply with requirements of referenced woodworking standard. Do not use materials that are warped, discolored, or otherwise defective.
 2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
 3. Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.
- B. Fire-Retardant-Treated Lumber and Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent, respectively.
 2. For items indicated to receive a stained or natural finish, use organic resin chemical formulation.
 3. Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking shop certified by testing and inspecting agency.

4. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.
- C. Fire-Retardant Particleboard: Panels complying with the following requirements, made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E 84.
 1. For panels 3/4 inch thick and less, comply with ANSI A208.1 for Grade M-2 except for the following minimum properties: modulus of rupture, 1600 psi; modulus of elasticity, 300,000 psi; internal bond, 80 psi; and screw-holding capacity on face and edge, 250 and 225 lbf, respectively.

2.4 ACCESSORIES

- A. Countertop Supports.
 1. Product: Subject to compliance with requirements, by Doug Mockett & Company, Inc.
 - a. Basis of Design: Doug Mockett SWS4
 - 1) Heavy duty workloads
 - 2) Color: white

2.5 MISCELLANEOUS MATERIALS

- A. Adhesives: Do not use adhesives that contain urea formaldehyde.
- B. Adhesives: Use adhesives that meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Adhesive for Bonding Plastic Laminate: Contact cement
- D. VOC Limits for Installation Adhesives and Sealants: Use products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 1. Wood Glues: 30 g/L.
 2. Multipurpose Construction Adhesives: 70 g/L.
 3. Structural Wood Member Adhesive: 140 g/L.
 4. Architectural Sealants: 250 g/L.

2.6 FABRICATION

- A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

- B. Fabricate countertops to dimensions, profiles, and details indicated. Provide front and end overhang of 1 inch over base cabinets.
- C. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
 - 2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- D. Shop cut openings to maximum extent possible to receive appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 1. Seal edges of openings in countertops with a coat of varnish.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition countertops to average prevailing humidity conditions in installation areas.
- B. Before installing countertops, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

- A. Grade: Install countertops to comply with same grade as item to be installed.
- B. Assemble countertops and complete fabrication at Project site to the extent that it was not completed in the shop.
 - 1. Provide cutouts for appliances, plumbing fixtures, electrical work, and similar items.
 - 2. Seal edges of cutouts by saturating with varnish.
- C. Field Jointing: Where possible, make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.

1. Secure field joints in plastic-laminate countertops with concealed clamping devices located within 6 inches of front and back edges and at intervals not exceeding 24 inches. Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.
- D. Install countertops level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
- E. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- F. Fire-Retardant-Treated Wood: Handle, store, and install fire-retardant-treated wood to comply with chemical treatment manufacturer's written instructions, including those for adhesives used to install woodwork.
- G. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
 1. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
 2. Secure backsplashes to walls with adhesive.
 3. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective countertops, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean countertops on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 123623.13

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 220500 - PLUMBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and Section 230100 "Mechanical General Provisions" apply to this Section.

1.2 PERMITS

- A. Contractor shall give all required notices and secure all necessary permits. Inspection certificates from local authorities having jurisdiction shall be delivered to the Architect prior to final payment.

1.3 GENERAL REQUIREMENTS

- A. Follow Plumbing Code for minimum requirements; where drawings or specifications are at variance with Code, follow whichever provides for maximum size or condition.
- B. Verify all grades, elevations and utility connections before commencing work.
- C. Comply with requirements of the Uniform Federal Accessibility Standards (UFAS).
- D. All pipe, fittings and fixtures that are connected to potable water systems must meet the current Water Drinking Act and where applicable, meet NSF Standard 61 and be so labeled and be so certified. All plumbing valves, devices, fixtures and fittings shall be lead free.

1.4 SUBMITTALS AND SHOP DRAWINGS

- A. Submit manufacturer's data on the following:
Drinking Fountains
- B. Submit a schedule of all pipe materials to be used for each type of service.

1.5 WARRANTY-GUARANTEE

- A. Contractor shall furnish written warranty, countersigned and guaranteed by the General Contractor, stating that work executed under this Section of the Specifications shall be free from defects of materials and workmanship for a period of 12 months from date of Substantial Completion.

- B. During the guarantee period, the Contractor shall repair or replace defective material and workmanship and place same in working order to the satisfaction of the Architect at no additional expense to the Owner.
- C. Contractor shall service the systems for 12 months from date of Substantial Completion. Such service shall include all emergency services and adjustments, except cleaning of filters and screens.

PART 2 - PRODUCTS

2.1 SOIL, WASTE, DRAIN AND VENT PIPING

- A. Above ground soil, waste, drain, rain leader and vent piping shall be hubless cast-iron pipe (ASTM A888), or DWV Schedule 40 PVC pipe (ASTM D2665) and fittings, except that PVC pipe shall not be used where piping penetrates fire partitions, or where rain leaders are exposed from floor to at least 10 feet above floor, or any location not allowed by the Building Code. PVC piping for any service shall not be installed in return air plenums. Use materials acceptable to be used in return air plenums.
- B. Foam Core PVC piping is not acceptable for any application.
- C. Hub-and-spigot piping shall be assembled using plain-end spigot and positive double-seal elastomeric compression-type gasket joints above ground. Hubless pipe and fittings shall be assembled using Neoprene gasket and stainless-steel retaining sleeve. Underground hubless pipe and fittings shall be assembled per paragraph below. PVC pipe and fittings shall be assembled in strict accordance with manufacturer's instructions. Solvent cement shall conform to ASTM D2564.
- D. Hubless Cast-iron Pipe and Fittings - Below Grade: Joints shall be heavy duty, Factory Mutual approved, to FM 1680 Class 1, type 304 stainless-steel couplings with a shield thickness of .024 (24 gauge) with 125 in/lb. worm drive clamps with Neoprene gaskets conforming to ASTM C564. Couplings 1-1/2" to 4" in diameter shall be 3" wide and have two clamps. Couplings 5" to 10" in diameter shall be 4" wide and have four clamps. Couplings 12" and 15" wide shall be 5-5/8" wide and have six clamps. Model HI-TORQ 125 as manufactured by CLAMP-ALL PRODUCTS, or approved equal.

2.3 CLEANING PLUGS AND TEST TEES

- A. Provide cleanouts as indicated and/or required by the Plumbing Code.
- B. Cleanouts shall be the same size as pipe, up to 4". Cleanouts for pipes larger than 4" shall be sized in accordance with the Plumbing Code. Cleanouts installed in connection with cast-iron, hub-and-spigot pipe shall consist of longsweep 1/4 bends or one or two 1/8 bends extended to easily accessible, approved location or where indicated. Extra-heavy cast-brass ferrule with cast-brass cleanout plug shall be caulked into hub of fittings and shall be flush with floor. Cleanouts in connection with threaded pipe shall be cast-iron drainage T-pattern 90-degree branch fittings with extra-heavy brass screw plugs of the same size as pipes, up to and including 4". Install test tees with cast-iron cleanout plugs at foot of soil, waste and drain stacks

and on each building drain outside building. Where cleanouts occur on pipe concealed in partitions and walls, provide with chromium-plated cast-brass plate secured to brass plugs. Verify cleanout locations before pipe installation. Extend cleanout plugs to within 1" of finished wall.

- C. See paragraph FIXTURES AND EQUIPMENT for cleanout access covers.

2.4 TRAPS

- A. Provide a trap for each fixture and piece of equipment requiring connections to drainage system. Supply traps with fixtures. Place each trap as near fixture as possible and no fixture shall be double trapped. Traps installed on threaded pipe shall be recess drainage pattern. Trap on all floor drains shall be deep-seal type.
- B. Exposed traps and drain piping shall be chromium plated.

2.5 WATER PIPING

- A. Water piping shall be copper tubing, Type L, hard-tempered above ground. Piping shall be assembled with wrought-copper fittings using 95-5 solder above ground and silver solder underground.
- B. Exposed water piping located in finished areas shall be chromium plated or stainless steel where materials are available. For larger pipe sizes, pipe may be painted.

2.6 VALVES

- A. Provide valves on piping as indicated and as required to isolate fixtures and equipment and to give complete control of water in risers and branch lines. Valves shall be ball, unless otherwise indicated. All valves shall be lead-free.
- B. No cast-iron valves shall be used on domestic hot water piping. Valves shall be bronze or brass body valves only.
- C. Valves on copper water piping, up to and including 2", shall be bronze or brass. Gate Valves 2-1/2" and larger shall be cast-iron body, bronze-mounted with companion flanges. Valves on cold or chilled piping shall have extended shafts to match the pipe insulation thickness to prevent condensation. Catalog numbers indicated are NIBCO. Valves with equivalent characteristics by APOLLO or MILWAUKEE are acceptable.

<u>Type</u>	<u>Size</u>	<u>Catalog Number</u>
Ball	2" and smaller	S-585-80-LF

2.7 FIXTURES AND EQUIPMENT

- A. Provide complete fixtures and equipment indicated and scheduled on contract documents. Fixtures and equipment shall be as manufactured by the listed manufacturers below or

approved equal. The plumbing fixtures listed below are selected to establish examples of design intent and to set a standard of quality. Equivalent fixtures and fittings from other manufactures may be submitted for approval.

1. Drinking fountains shall be as manufactured by HALSEY TAYLOR, ELKAY, or HAWS.
- B. All material shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.
- C. Provide supply stops as required for all fixtures. Refer to plumbing drawings for additional fixture information.
- D. Provide concealed, floor-mounted, fixture support carriers for all wall-mounted plumbing fixtures, including: water closets, urinals, lavatories and water coolers. Provide floor-mounted supports with concealed arms for wall-hung lavatories. Carriers shall be as manufactured by J. R. SMITH CO., or approved equal. Contractor to select proper model to suit wall construction.
- E. All drinking fountains are to be lead-free.
- F. Provide Owner with any special tools required to perform maintenance on fixtures and fittings.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. Make changes in pipe sizes on soil, waste and drain lines with reducing fittings or recessed reducers. Make changes in direction by appropriate use of 45-degree wyes, longsweep 1/6, 1/8, or 1/16 bends, except sanitary tees may be used where permitted by code in soil and waste lines where change in direction of flow is from horizontal to vertical and on discharge from water closets. Short-radius fittings shall not be permitted, except in approved location.
- B. Slip joints are permitted only in trap seals or on inlet side of traps. Use hub fittings for making union connections wherever practicable, in connection with dry vents.
- C. PVC piping shall not be installed in return-air plenums, through fire walls, or any location not allowed by the Building Code.

3.2 CONNECTIONS TO EQUIPMENT

- A. Make plumbing connections to all equipment requiring connections, including equipment in Contract and equipment furnished by others. Make all connections according to manufacturer's recommendations.

3.3 FIXTURE SETTING HEIGHTS

- A. Plumbing fixtures shall be at heights indicated and/or directed. Heights of handicapped plumbing fixtures shall be as governed by the Building Code, ANSI A117.1 and the requirements of the Uniform Federal Accessibility Standards (UFAS).

3.4 INSPECTION AND TESTS

- A. The new plumbing system shall be tested by the Contractor in the presence of the Architect . Governing authorities having jurisdiction shall be notified of test required by them and Final Acceptance of work shall be contingent upon their approval. At least 48 hours notice shall be given prior to test. All costs of conducting test and furnishing necessary equipment for test shall be borne by the Contractor.
- B. The new soil, waste, drain and vent system shall be tested and proved tight prior to connection of fixtures, by closing all openings, except highest at roof and filling with water to point of overflow. Allow water to stand at least 2 hours before starting inspection. Where piping must be tested in sections to facilitate construction, include at least the upper 10 feet of the preceding section so that no pipe or joint in building will have been subjected to less than 10 feet head of water. Piping laid in trenches shall not be backfilled until test has been made and joints proved tight. Owner shall be provided 24 hours notice prior to tests and provided written results of tests.
- C. Clean equipment, pipe, valves and fittings of grease, metal cuttings and sludge accumulated by operations of system for testing. Stoppage or discoloration or other damage to parts of building, its finish or furnishings due to Contractor's failure to properly clean piping system shall be repaired without cost to the Owner.

END OF SECTION 220500

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260100 - ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SCOPE OF WORK

- A. This Section of the Specifications describes the material and installation procedures to be followed for furnishing and installing the electrical equipment and material as outlined and described on the contract drawings and as stated in this Division of the Specifications.
- B. Where the word "Contractor" appears in this Division of the Specifications, it applies to the Contractor performing the electrical portion of the work, unless specifically indicated otherwise.
- C. The Contractor shall install the systems as specified herein and indicated on the contract drawings and shall furnish all labor, material, tools, scaffolds, erection equipment, services and other items of expense as necessary as a part of this Contract. This Contract further includes placing the systems into operation and properly testing, adjusting, balancing and training the owner's personnel on the use of all items of equipment as specified and as approved by the Architect.

1.3 SUPERVISION

- A. The Electrical Contractor shall have a competent and English speaking designated Supervisor who is a Certified Master Electrician on the job site at all times that any electrical work is being performed. This shall include any and all electrical work being accomplished by contractors who are subcontractors to the prime Electrical Contractor.

1.4 DRAWINGS

- A. General arrangements of the necessary conduits, feeders, light fixtures, devices, panels, and equipment are indicated on the drawings in diagrammatic form only. Due to the scale of the drawings, offsets, fittings, and accessories may not be shown. Work indicated but having details omitted shall be provided complete to an operating condition with all fittings, wiring, and ancillary equipment and material as required. Where rearrangement is necessary, submit drawings of proposed changes for approval and coordinate and arrange work with consideration to the architectural, structural, mechanical, plumbing, the existing building conditions and to the work of the various other building trades. Equipment provided under this Division of the Specifications shall be installed in accordance with the recommendations of the equipment or material manufacturer.

1.5 COORDINATION

- A. Coordinate the electrical work with the architectural, structural, mechanical, plumbing, and work in order to avoid omissions and to eliminate any interference. Report any discrepancies found, as soon as possible, after discovery, to the Architect.
- B. The contractor shall be responsible for coordinating with the Division 23 Contractor for providing properly sized circuit breakers to serve mechanical equipment and motors furnished which differ from that specified or indicated. This shall be further understood to include branch circuit wiring, conduit, disconnect switches, etc., in accordance with the appropriate codes and specifications. The cost of providing this increased electrical service and related work shall be included under the applicable section under which the equipment and motors are being furnished, at no additional cost to Owner.

1.6 CODES AND STANDARDS

- A. Various recognized codes and standards form a part of these Specifications the same as if written fully herein and shall be followed as minimum requirements. The codes and standards will be referred to by their abbreviated names and are listed below. Reference to these standards shall be understood to mean the latest edition and accumulative supplements which have been adopted by the "Authority Having Jurisdiction," unless noted otherwise.

ASAD	ADA Standards for Accessible Design
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
CBMA	Certified Ballast Manufacturers Association
IBC	International Building Code
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
NEC 2014	National Electrical Code
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NFPA	National Fire Prevention Association
NFPA 70E	Standard for Electrical Safety in the workplace
OSHA	The Occupational Safety and Health Act
UL	Underwriters Laboratories, Inc.
VUSBC	Virginia Uniform Statewide Building Code, 2015 Edition

- B. All equipment, material, apparatus, and work shall conform to the requirements of the NEC. If the Contractor observes that the drawings and specifications are at variance therewith, the contractor shall notify the Architect in writing. If the Contractor performs such work contrary to the above referenced rules and regulations and without written acknowledgment or notice thereto, they shall correct this work and bear all cost arising therefrom.

1.7 NOTICES AND FEES

- A. Give all required notices, obtain all necessary permits, and pay all required fees, including any fees associated with temporary electrical power services during construction. Utility company fees, which are for the permanent installation of electrical power services, shall be paid for by the Owner.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS

- A. Refer to Specification 013300 "Submittals", for shop drawing submittal procedures. Submit shop drawings for materials required for this project as indicated herein. Obtain approval from the Architect before manufacture is started on any of same. The shop drawings shall show complete details of the various items, wiring diagrams, etc., and shall be submitted in a sufficient number of copies to allow the Engineer to retain one copy. Approved copies of all shop drawings shall be kept on the job site accessible to the Architect at all times.

2.2 ACCEPTABLE MANUFACTURERS

- A. The following list states specific names of acceptable manufacturers of particular equipment and indicates the types of material on which submittals shall be made:

Submittal
Information
Required:

Light Fixtures Product Data
See light fixture schedule on drawings.

NOTE: If substitute light fixtures are submitted for review, provide catalog data on the substitution which will provide all the information required to compare it to the specified product. At a minimum, provide dimensional and weight data, coefficients of utilization (CU) information, and photometrics for both the specified and substitute light fixtures.

Wiring Devices and Cover Plates Product Data
Hubbell
Leviton
Arrow-Hart
Pass and Seymour.

Surface Metal Raceway Product Data
Wiremold
Hubbell Incorporated
Mono Systems

- B. The following list states other materials for which product data submittals shall be made:

Circuit Breakers (each type)
Conductors (each type)
Conduit (each type)
LED Drivers
Lighting Contactors
Occupancy Sensing Switches (all types)

- C. Catalog numbers and manufacturers are listed as a guide for minimum requirements to be met. Material and equipment of manufacturers other than those listed will be given consideration by the Architect providing the material meets the minimum requirements set forth in these Specifications and providing the material or equipment will provide satisfactory performance for the intended installation, does not exceed the dimensions and weight of the specified item and meets the aesthetic performance desired of the specified item. Submittals of other than specified equipment shall have indicated on the specification sheets in the shop drawing submittals each item called for in these Specifications by paragraph and subparagraph numbers and/or letters.
- D. Any deviation from the manufacturers listed in the preceding list and /or of those stated in the Contract Documents shall be submitted to the Engineer for approval in accordance with Specification Section 260500, "Materials and Methods." Facsimile transmission of data for review will not be accepted.
- E. The Engineer will review for approval, only one substitute for each type of material specified in the Division 26 Contract Documents. If the substitute material is not approved, the Contractor shall provide the material by one of the specified manufacturers. Approval of substitute material is at the sole discretion of the Architect and Owner, and the Contractor shall bear all costs arising therefrom, including any design fees if additional design effort is deemed prudent or necessary by the Architect.
- F. Only the types of materials specified herein are approved for use on this project. No other material types will be considered.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. "Provide," as used on the drawings and in these Specifications, shall mean furnish, install, connect, adjust, test, and place into operation, except where otherwise specifically stated in the contract documents.
- B. Provide coordinated electrical systems, equipment, and material complete with auxiliaries and accessories as required for a complete and operable finished project.
- C. Run all conduits concealed except where specifically indicated otherwise. Exposed conduit installation other than where indicated shall be approved by the Architect and Owner prior to installation.

3.2 CLEANING AND PAINTING

- A. Remove all dirt, trash, and oil from all raceways, boxes, fittings, cabinets, and panelboards.
- B. Protect, to the satisfaction of the Architect, all equipment provided against damage during construction. If damage does occur to any materials, refinish, repair, or replace the equipment or material as directed by the Architect.

3.3 REPAIR OF EXISTING WORK

- A. Repair of existing work, demolition, and modification of existing electrical distribution systems shall be performed as follows:
 - 1. Workmanship: Lay out work in advance.
 - a. Exercise care when cutting, channeling, chasing, or drilling of floors, walls, partitions, ceilings, or other surfaces as necessary for proper installation, support, or anchorage of conduit, raceways, or other electrical work. Repair damage to buildings and materials or equipment damaged using skilled craftsmen of the appropriate trades.
 - 2. Existing Concealed Wiring to be Removed:
 - a. Existing concealed wiring to be removed shall be disconnected from its source. Remove conductors and cut conduits flush with concrete floors, and top openings with non-shrink grout. Where wood floors are encountered, remove conduit to below wood floor. Where conduit that passes through walls is removed, seal opening in wall with a material that is equal to the fire rating of the material the wall is constructed from.
 - 3. Continuation of Service:
 - a. Maintain continuity of existing circuits to remain. Existing circuits shall remain energized unless otherwise indicated. Circuits which are to remain but were disturbed during demolition shall have circuit wiring and power restored back to original condition as approved by the Architect. Only materials specified for this project may be used to affect repairs.

3.4 EXCAVATION

- A. All excavations shall be made to the proper depth to assure a firm foundation for the work.

3.5 RECORD DRAWINGS

- A. Refer to Specification Section 017839 "Project Record Documents".

3.6 OPERATION AND MAINTENANCE MANUALS

- A. Refer to Specification Section 017823 "Operation and Maintenance Data".

The following list states materials for which Operation and Maintenance Data submittals shall be made:

Light Fixtures
Occupancy Sensing Switches (all types)

3.7 EQUIPMENT INVENTORY

- A. Provide a complete equipment inventory for all Electrical Equipment listed below. Refer to Appendix A in this section for the required template. A separate form shall be provided for each new piece of equipment provided.
- B. Prior to substantial completion, submit the equipment inventory forms for review. Once approved, include the forms in the operation and maintenance manual.

The following list states materials for which equipment inventory shall be made:

Light Fixtures
Occupancy Sensing Switches (all types)

APPENDIX A

New Equipment Inventory

Project Name: [Add Project Name]

Project Address: [Add Project Address]

Description of Item: _____
(ex. Switchboard, Panelboards, Generator, Lighting, etc.)

Classification:

- ☐ Lighting
- ☐ Power Distribution
- ☐ Auxiliary Systems

Building: _____

Equipment Location (Room Number): _____

Date Purchased: _____

Date Placed in Service: _____

Original Cost: _____

Life Expectancy (years): _____

Estimated Replacement Date: _____

Estimated Replacement Cost: _____

Manufacturer: _____

Model/Serial #: _____

END OF SECTION 260100

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260500 - MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE OF WORK

- A. Provide all labor, material, tools, scaffolds, erection equipment, services and supplies to fabricate, install, connect, adjust, test, and place in operation the electrical and other systems as called for in these Specifications and as indicated on the Contract Drawings.
- B. Properly store and protect all material and equipment until installed.
- C. All material and equipment shall be new and of the quality noted or specified. Material, equipment, and work of inferior quality will be rejected and shall be removed from the job site immediately upon rejection and replaced. Unacceptable work shall be removed and replaced. All replacement material and work shall be done at the Contractor expense. The Engineer will decide upon the quality of material and equipment furnished and of the work performed.

1.3 WARRANTIES

- A. The Contractor shall provide the Owner with a one-year, unlimited material and labor warranty on all work accomplished and materials provided under Division 26, including all components thereof except as otherwise noted herein. The warranty start date is the date of project "Substantial Completion" as determined by the Architect All warranties shall be submitted as part of the shop drawing submittals.
- B. Electronic LED drivers shall be free from defect in material and workmanship for a period of five (5) years from the date of project "Substantial Completion" as determined by the Engineer.

PART 2 - PRODUCTS

2.1 MATERIAL

- A. Electrical material furnished under these Specifications shall be new and listed by UL and shall bear the UL label where labeling service is available for the type of material provided for this project.

2.2 RACEWAYS

- A. Raceways shall be of the size indicated or as required by the NEC; whichever is the larger; except where larger conduits are specified on the Contract Drawings. Raceways shall be 1/2" minimum.
- B. Raceways shall be provided for all electrical systems indicated on the drawings unless specifically indicated otherwise. Raceways shall be hot-dip galvanized rigid steel conduit (GRS), electrical metallic tubing (EMT), flexible steel conduit, or intermediate metallic conduit (IMC).

2.3 CONDUCTORS

- A. Conductors shall be of the American Wire Gauge size indicated on the contract drawings or specified herein.
- B. All conductors shall be copper.

2.4 OUTLETS

- A. Outlet and junction boxes shall be of one-piece galvanized construction of a type and size applicable for use in the location indicated on the contract drawings and as required by the NEC.
- B. Locations of outlets for lighting, devices, power, and equipment are indicated on the contract drawings. Owing to the small scale of the drawings, it is not possible to indicate the exact location. Examine the architectural, structural, mechanical, sprinkler system and plumbing drawings, and finish conditions and arrange work as required to meet such conditions to the approval of the Architect.
- C. Verify the exact swing of doors and locations of furniture and built-in cabinetry prior to installing outlets for switches and receptacles and make the necessary adjustments in location and mounting height of same to avoid conflicts at no additional cost. Coordinate outlets with change orders, addenda, and job site differences.

2.5 PULL BOXES

- A. Install pull boxes at all necessary points, whether indicated on the drawings or not, to prevent injury to conductor insulation or other damage that might result from pulling resistance or for other reasons necessary for proper installation. Minimum dimensions shall not be less than the NEC requirements and shall be increased if necessary for practical reasons or where required to fit the job condition.
- B. All junction and pull box covers shall be labeled indicating the circuits contained therein in a manner that will prevent unintentional interference with circuits during testing and servicing. For example: "HE1-13." See Specification Section 260534 for additional labeling requirements.

2.6 BRANCH CIRCUITS

- A. The branch circuit wiring has been designed to utilize the advantages of multi-wire distribution and shall be installed substantially as indicated on the drawings. Major changes in the grouping or general routing of the branch circuits require prior approval in writing from the Architect/Engineer.
- B. The number of conductors in each run of conduit is indicated on the drawings, but where there is a conflict between the number of wires indicated and the actual number required as determined by the functional requirements of the connected load, or where the number of wires was inadvertently omitted from the drawings, the correct number and size of wires as determined by the functional requirements of the connected load shall govern and be provided at no additional cost.
- C. Where individual 120V or 277V homerun circuits are shown on the drawings, they may be combined as follows:
 - 1. No more than three phase conductors plus three neutrals and one ground per conduit.
 - 2. No two of the same phase conductor per conduit.
 - 3. Provide 120V circuits with individual neutrals per circuit. Neutrals may not be shared.
 - 4. Neutral sharing by 277V circuits is acceptable.

2.7 CABLE TIES

- A. Provide cable ties in the length required. Standard, indoor cable ties shall be 7.9 inches in length minimum, 0.19 inches in width and 0.47 inches thick. The tensile strength shall be 50 pounds minimum and the maximum bundle diameter shall be 2 inches. Standard cable ties shall be black in color. Plenum rated cable ties shall be 6 inches in length minimum, .075 inches in width and 0.1 inches thick. The tensile strength shall be 50 pounds minimum and the maximum bundle diameter shall be 1.5 inches. Plenum rated cable ties shall be maroon in color.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install material in a first-class and workmanlike manner to the satisfaction of the Architect.

END OF SECTION 260500

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260519 - CONDUCTORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE OF WORK

- A. Feeder and branch circuit wiring shall conform to the requirements of the NEC, and shall meet all relevant ASTM specifications.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Provide electrical wires, cables, and connectors of manufacturer's standard materials, as indicated by published product information; designed and constructed as recommended by manufacturer for a complete installation and for the application indicated. Provide copper conductors with a conductivity of not less than 98% at a temperature of 20°C (68°F).
- B. Provide factory-fabricated wires of sizes, ampacity ratings, and materials for applications and services indicated. Where not indicated, provide proper wire selection as determined by installer to comply with project's installation requirements, the NEC, and NEMA standards. Select from the following UL types those wires with construction features which fulfill project requirements:
 - 1. Type RHW: For dry and wet locations; max operating temperature 75°C (167°F). Insulation, heat-resistant rubber; outer covering, moisture-resistant, flame-retardant, nonmetallic covering; conductor, annealed copper, compressed stranded.
 - 2. Type THWN or THHN: Max operating temperature not to exceed 90°C (194°F) (THHN) in dry locations, or 75°C (167°F) (THWN) in wet or dry locations. Insulation, flame-retardant, moisture- and heat-resistant, thermoplastic; outer covering, nylon jacket; conductor, annealed copper.
 - 3. Type XHHW: For dry and wet locations; max operating temperature 90°C (194°F) for dry locations, and 75°C (167°F) for wet locations. Insulation, flame-retardant, cross-linked synthetic polymer; conductor, annealed copper.
- C. Unless specified otherwise, power and lighting conductors shall be 600 volt, Type THWN/THHN, or XHHW.

- D. Where light fixtures require 90°C (194°F) conductors, provide only conductors with 90°C (194°F) insulation.
- E. Conductors shall be continuous from outlet to outlet with splices made only in pull boxes, junction boxes, and outlet boxes.
- F. Do not use wire smaller than #12 AWG for power or lighting wiring.
- G. Wiring sizes #12 and #10 AWG shall be solid. Larger sizes may be stranded.
- H. Neutral conductors shall not be under sized.

PART 3 - EXECUTION

3.1 SPLICES

- A. Splicing connectors must have a metal spring that is free to expand. The spring must be suitably coated to resist corrosion. Each connector size must be listed by UL for the intended purpose. The connectors must be suitably color coded to assure that the proper size is used on the wire combinations to be spliced. Each connector must be capable of withstanding 105°C ambient temperatures. The connectors must be compatible with all common rubber and thermoplastic wire insulations. They must also be capable of making copper-to-copper, copper-to-aluminum, and aluminum-to-aluminum splices. At the Contractor's option, self-strapping electrical tap connectors may be used in wire size and voltage range of the connector. When tape is required for splices, SCOTCHBRAND No. 33, or approved equal, shall be used. Use the plastic tape on PVC and its copolymers and rubber-based pressure-sensitive adhesive. The tape must be applicable at temperatures ranging from 0°F through 100°F without loss of physical or electrical properties. The tape must not crack, slip, or flag when exposed to various environments indoor or outdoor. The tape must also be compatible with all synthetic cable insulations as well as cable splicing compounds.
- B. Make splices in conductors #8 AWG and larger with solderless connectors, with molded composition covers.
- C. Connect conductor sizes #12 and #10 AWG with pre-insulated spring connectors rated at not less than 105°C. Connectors shall be UL approved for fixture and pressure work. Connectors shall be 3M CO. SCOTCHLOK, Type Y, R, and B, or approved equal.
- D. Join or terminate conductors #8 AWG and larger with pressure-type copper connectors and properly tape.
- E. All branch circuit, feeder, and control wiring shall be color coded. The color shall be integral with sheath for sizes #12, #10, and #8 AWG. Larger size wire and cable shall be color coded with a minimum 1/2" wide, colored, plastic tape strip. Place strips a minimum of 6" on center anywhere the conductors are accessible and visible. Wire and cable shall be color coded **to** match the existing color coding if an existing color code is present. If there is no existing color code, provide the following:

<u>120/208-Volt System</u>	<u>277/480-Volt System</u>
Phase A - black	Phase A - brown
Phase B - red	Phase B - orange
Phase C - blue	Phase C - yellow
Neutral - white	Neutral - gray
Ground - green	Ground - green

- F. After all wiring is pulled and ready for operation but prior to placing systems in service, conduct insulation resistance tests in all feeder circuits. Measure the insulation resistance between conductors and between each conductor and ground. Make measurements with an instrument capable of making measurements at an applied potential of 500 Volts.
- G. Take readings after the voltage has been applied for a minimum of one minute. The minimum insulation resistance for circuits of #12 AWG conductors shall be 1,000,000 ohms. For circuits of #10 AWG or larger conductor, a resistance based on the allowable ampacity of the conductor shall be as follows:]

25 through 50 Amperes	250,000 ohms
51 through 100 Amperes	100,000 ohms
101 through 200 Amperes	50,000 ohms
201 through 400 Amperes	25,000 ohms
401 through 800 Amperes	12,000 ohms
Over 800 Amperes	5,000 ohms

- H. Advise the Engineer if the color-coding provided by the utility company differs from that indicated above.

3.2 TEMPORARY WIRING

- A. Temporary wiring is not specified nor governed by this Division of the Specifications.

END OF SECTION 260519

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260525 - SURFACE METAL RACEWAY

PART 1 – GENERAL

1.1 REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE

- A. The work covered under this Section shall include furnishing and installing surface mounted metal raceways complete for all electrical systems as shown on the Drawings and herein specified. Surface raceway systems shall consist of raceway bases, covers, appropriate fittings, dividers, and device mounting plates necessary for a complete installation.
- B. All material and equipment shall be new and of the quality noted or specified. Material, equipment, and work of inferior quality will be rejected and shall be removed from the job site immediately upon rejection and replaced. Unacceptable work shall be removed and replaced. All replacement material and work shall be done at the Contractor expense. The **Architect** will decide upon the quality of material and equipment furnished and of the work performed.

1.3 QUALITY ASSURANCE

- A. All equipment, materials, and their installation shall conform to the requirements of the National Electrical Code (NEC), local code requirements, and these Specifications.
- B. All equipment and materials shall be listed by Underwriters Laboratories, Inc. (UL) for their intended use and shall bear the UL label.
- C. Equipment shall be constructed in accordance with National Electrical Manufacturer's Association (NEMA) standards.
- D. Submittals are required in accordance with Section 260100 of these Specifications.

1.4 USES PERMITTED

- A. Surface mounted metal raceway shall be used where indicated on the drawings where new wiring is required on existing walls and on new walls as also indicated on the Drawings.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver raceway systems in factory labeled packages.
- B. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- C. Protect from damage due to weather, excessive temperature, and construction operations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Surface metal raceways shall be as manufactured by The Wiremold Company, as described herein as the basis of design, or equal products as manufactured by Hubbell Incorporated and Mono Systems.
- B. All components and fittings shall be of the same manufacturer, or UL listed as an assembly.

2.2 MATERIALS AND COMPONENTS

- A. All surface metal raceways shall be galvanized steel, unless otherwise indicated. Finish shall be ivory in color having a scratch-resistant surface (a polyester topcoat over a colored base) and shall be suitable for field repainting to match surroundings.
- B. A full complement of fittings must be available including but not limited to mounting clips and straps, couplings, flat, internal and external elbows, cover clips, tees, entrance fittings, wire clips, support clips, c-hangers, end caps, conduit connectors, bushings, and take-off fittings to adapt to flush wall boxes. The covers shall be painted with an enamel finish; colored to match the raceway. They shall overlap the raceway to hide uneven cuts. All fittings shall be supplied with a base where applicable to eliminate mitering. Transition fittings shall be available to adapt to other sizes and types of raceways of the same manufacturer. Provide all fittings, etc. for a complete installation.
- C. Device Boxes shall be suitable for the type of raceways provided and for mounting standard devices and faceplates. Device boxes shall be provided in single- and multiple-gang configurations, up to six-gang. Single-gang boxes shall allow for snap-on and fastener applications. They shall range in depth from 0.94" to 2.75". Extension boxes shall be provided to adapt to existing standard flush switch and receptacle boxes.
- D. The raceway manufacturer shall provide a complete line of connectivity outlets and modular inserts for UTP/STP, Fiber Optic, Coaxial and other cabling types with face plates and bezels to facilitate mounting. A complete line of preprinted station and port identification labels, snap-in icon buttons as well as write-on station identification labels shall be available. Provide as needed for a complete installation.
- E. Raceways used for communications cabling shall have a complete line of full capacity corner elbows and tee fittings, and used where required or shown on the Drawings, to maintain a controlled 2" cable bend radius which meets the specifications for Fiber Optic and UTP/STP

cabling and exceeds the TIA 569 requirements for communications pathways.

2.3 SURFACE METAL RACEWAYS

- A. Wiremold Series 500 or 700 raceway shall be one-piece design with a base and cover factory assembled. The total width shall be 3/4" x 17/32" high with a capacity of 0.19 square inches for 500 or 3/4" x 21/32" with a capacity of 0.26 square inches for 700. The raceway base and cover shall be a minimum thickness of 0.040". The raceway shall be available in five (5) foot and ten (10) foot lengths.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions under which surface raceways, boxes, distribution systems, accessories, and fittings are to be installed and substrate that will support raceways. Notify the Architect/Engineer of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Surface raceways shall be installed in strict compliance with the manufacturer's installation instructions and recommendations and approved shop drawings. Coordinate installation with adjacent work to ensure proper clearances and to prevent electrical hazards.
- B. Surface raceways shall be installed parallel with or at right angles to building structure and at the mounting heights noted on Drawings.
- C. Surface raceway systems shall be mechanically continuous and connected to all electrical outlets, boxes, device mounting brackets, and cabinets, in accordance with manufacturer's installation sheets.
- D. Metal raceways shall be electrically continuous and bonded in accordance with the National Electrical Code for proper grounding.
- E. Surface raceway shall be supported at intervals not exceeding five (5) feet or in accordance with manufacturer's installation sheets using appropriate anchors and screws. The use of drive pins and/or other methods using compressed air or gases are not acceptable.
- F. Provide accessories as required for a complete installation, including insulated bushings and inserts where required by the manufacturer.
- G. Close all unused raceway openings using manufacturer's recommended accessories.
- H. All surface raceway connections to outlet and/or junction boxes shall be made using adjustable offset connectors or combination connectors as detailed on the Drawings. The

connectors shall be furnished by the manufacturer of the surface raceway.

- I. Field cutting of surface raceways base and covers shall be accomplished by the use of the manufacturer's raceway cutters specifically designed for this purpose.

3.3 CLEANING AND PROTECTION

- A. Clean exposed surfaces using non-abrasive materials and methods recommended by manufacturer.
- B. Protect raceways and boxes until final acceptance by the Owner.
- C. Repaint marred and scratched surfaces with touch-up paint to match original finish.

END OF SECTION 260525

SECTION 260526 - GROUNDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE OF WORK

- A. Provide grounding for conduits, motor frames, metal casings, receptacles, and solid neutral, and as required by NEC Article 250.

PART 2 - PRODUCTS

2.1 GROUND WIRE

- A. Provide a green insulated ground wire, sized per the NEC, in all conduits, junction boxes, and pull boxes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Connect grounding conductors to the panelboard equipment ground bus and not to the panelboard neutral bus. Also connect grounding bushings to the ground bus. Connect the neutral bus only to the system neutral wire. Provide a bonding wire between the equipment ground bus and the neutral bus in the main distribution equipment only. The grounding system (conduit, cabinets, enclosures, and grounding conductors) and the grounded system (neutral conductors and service equipment ground) shall be separate and independent systems, except at the main distribution equipment.
- B. Test resistance to ground and submit readings to the Architect for review. Include the date and time of the test and the name of the individual performing the test.

END OF SECTION 260526

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260529 - SUPPORTING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE OF WORK

- A. Extent of supports, anchors, sleeves, and seals is indicated in other Division 26 Sections.
- B. Types of supports, anchors, sleeves, and seals specified in this Section include the following:
 - C-clamps
 - I-beam clamps
 - One-hole conduit straps
 - Two-hole conduit straps
 - Round steel rods
 - Expansion anchors
 - Toggle bolts
 - Wall and floor seals
- C. Supports, anchors, sleeves, and seals furnished as part of factory-fabricated equipment are specified as part of equipment assembly in other Division 26 Sections.

1.3 QUALITY ASSURANCE

- A. Furnish supporting devices manufactured by firms regularly engaged in manufacture of supporting devices of types, sizes, and ratings required.
- B. Comply with the requirements of the NEC, as applicable to construction and installation of electrical supporting devices.
- C. Comply with applicable requirements of ANSI/NEMA FB1, "Fittings and Supports for Conduit and Cable Assemblies."
- D. Comply with NECA "Standard of Installation" pertaining to anchors, fasteners, hangers, supports, and equipment mounting.
- E. Provide electrical components which are UL-Listed and labeled.

PART 2 - PRODUCTS

2.1 MANUFACTURED SUPPORTING DEVICES

- A. Provide supporting devices complying with manufacturer's standard materials, design, and construction in accordance with published product information and as required for a complete installation, and as herein specified. Where more than one type of device meets indicated requirements, selection is installer's option.
- B. Provide supporting devices of types, sizes, and materials required, and having the following construction features:
 - 1. Reducing Couplings: Steel rod reducing coupling, 1/2" by 5/8"; galvanized steel; approx. 16 pounds per 100 units.
 - 2. C-Clamps: Galvanized steel; 1/2" rod size; approx. 70 pounds per 100 units.
 - 3. I-Beam Clamps: Galvanized steel, 1-1/4" by 3/16" stock; 3/8" cross bolt; flange width 2"; approx. 52 pounds per 100 units.
 - 4. One-hole Conduit Straps: For supporting metal conduit through 3/4" galvanized steel; approx. 7 pounds per 100 units.
 - 5. Two-hole Conduit Straps: For supporting metal conduit above 3/4" galvanized steel; 3/4" strap width; and 2-1/8" between center of screw holes.
 - 6. Hexagon Nuts: For 1/2" rod size; galvanized steel; approx. 4 pounds per 100 units.
 - 7. Round Steel Rod: Galvanized steel; 1/2" dia.; approx. 67 pounds per 100 feet.
 - 8. Offset Conduit Clamps: For supporting 2" rigid metal conduit; galvanized steel; approx. 200 pounds per 100 units.
- C. Provide anchors of types, sizes, and materials required and having the following construction features:
 - 1. Expansion Anchors: 1/2"; approx. 38 pounds per 100 units.
 - 2. Toggle Bolts: Springhead; 3/16" by 4"; approx. 5 pounds per 100 units.
- D. Provide sleeves and seals of types, sizes, and materials required, and having the following construction features:
 - 1. Provide factory-assembled, watertight wall and floor seals suitable for sealing around conduit, pipe or tubing passing through concrete floors and concrete block walls. Construct with steel sleeves, malleable-iron body, neoprene sealing grommets and rings, metal pressure rings, pressure clamps and cap screws.
- E. Provide U-channel strut system for supporting electrical equipment, 16-gauge hot-dip galvanized steel of sizes required; construct with 9/16" dia. holes, 8" o.c. on top surface, and with the following fittings which mate and match with U-channel:
 - Fixture hangers
 - Channel hangers
 - End caps
 - Beam clamps
 - Wiring stud

Rigid conduit clamps
Conduit hangers
U-bolts

PART 3 - EXECUTION

3.1 INSTALLATION OF SUPPORTING DEVICES

- A. Install hangers, anchors, sleeves, and seals as indicated in accordance with manufacturer's published instructions and with recognized industry practices to ensure supporting devices comply with the requirements of the NEC, NECA, and ANSI/NEMA for installation of supporting devices.
- B. Coordinate with other electrical work, including outlet box, raceway and wiring work, as necessary to interface installation of supporting devices with other work.
- C. Install hangers, supports, clamps, and attachments to support conduit and outlet boxes properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze-type hangers where possible. Install supports with maximum spacings indicated.
- D. Tighten sleeve seal nuts until sealing grommets have expanded to form watertight seal.

END OF SECTION 260529

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260533 - RACEWAYS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE OF WORK

- A. Run all conduit concealed, except conduit may be run exposed in mechanical rooms, locations where specifically indicated, and spaces with exposed construction as approved by the Architect.
- B. Provide a conduit system complete with fittings and hangers as specified herein and as required by the NEC. Run all electrical wiring systems above 24 Volts in conduit unless specifically indicated otherwise.
- C. Install conduit as a complete system without wiring and continuous from outlet to outlet and from fitting to fitting, mechanically and electrically connected to all boxes, fittings, and wireways, and grounded in accordance with the NEC.
- D. Cap ends of all conduit promptly upon installation with plastic pipe caps. Caps shall remain until wiring is ready to be installed. Taping the ends of conduits is not acceptable.
- E. Size conduit to equal or exceed the minimum requirements of the NEC (except where sizes are specifically indicated on the drawings and in these specifications).
- F. Verify exact swing of doors, prior to installing conduit for switches. Coordinate switches with the Architect's plans, change orders, addenda, and job site differences and make the necessary adjustments to avoid conflicts at no additional cost.
- G. Coordinate the routing of conduit with other trades to avoid conflicts with structural members, piping, ductwork, and other job site conditions.
- H. When PVC conduit is used below grade, it shall be glued together in such a manner so as to make it watertight.

PART 2 - PRODUCTS

2.1 CONDUIT

- A. Minimum size conduit shall be 1/2" unless noted or indicated otherwise on drawings. Use larger sizes as required by the NEC to accommodate the number and sizes of wires contained therein.
- B. Conduit concealed in walls or above ceilings shall be rigid steel (GRS), electrical metallic tubing (EMT), or intermediate metallic conduit (IMC). Flexible steel conduit may be used above accessible ceilings only. Conduit installed below grade and under concrete floors and slabs shall be Schedule 40 PVC, unless otherwise indicated. Conduit run vertically through concrete and into wall cavities shall be GRS or IMC starting at 6" below the bottom of the slab. Where conduits turn up inside a wall cavity, IMC and GRS may be converted to EMT at 6" above the top of the concrete slab. No portion of the conduit radius shall be within the concrete slab. The use of MC or BX cable is not permitted.
- C. GRS, EMT and IMC shall be UL approved, hot-dip, high-strength, galvanized steel.
- D. Rigid PVC conduit shall be Schedule 40 (or Schedule 80 if required by the NEC), extruded from high-grade PVC compound and shall be light gray in color. Rigid PVC conduit shall be UL approved for direct burial and concrete encasement.
- E. Flexible steel conduit shall be galvanized, continuous spiral, single strip type. In areas subject to moisture and where specifically indicated, flexible steel conduit shall have a plastic covering in accordance with NEC Article 350. Fittings shall be standard UL approved with ground connector. Watertight connectors shall be used with plastic-covered conduit. All flexible steel conduit installed shall be plastic covered. The maximum length for flexible steel conduit is 72" unless as otherwise indicated.
- F. Conduit may not be run in the flutes of metal roof decking, and may not be attached to any part of metal roof decking.

2.2 FITTINGS

- A. All conduit entering or leaving panelboards, cabinets, outlet boxes, pull boxes, or junction boxes shall have lock nuts and bushings, except provide insulated throat connectors on EMT conduit 3/4" and 1". Rigid steel conduit shall have a lock nut both inside and outside of the enclosure entered. Install bushings on the ends of IMC conduit and EMT conduit larger than 1". Insulating bushings shall be OZ Type A for GRS and IMC, and Type B for EMT. Conduit entering enclosures through concentric knockouts shall have grounding-type bushings with copper bond wire to enclosure.
- B. Provide expansion fittings where conduits cross building expansion joints. Expansion fittings shall be OZ Type AX with OZ Type BJ bonding jumper. See Architectural drawings for location of expansion joints.
- C. Fittings for rigid conduit shall be threaded type, except where IMC changes to EMT above floor slab, fittings shall be threadless type.
- D. Fittings for EMT shall be UL-approved, steel set screw couplings.

2.3 JUNCTION BOXES

- A. Use junction boxes on exposed conduit work for changes in direction of conduit runs and breaking around beams and columns.
- B. Furnish covers and gaskets with the junction boxes where installed in damp or wet locations.
- C. Label all junction and pull box covers indicating the circuits contained therein in a manner that will prevent unintentional interference with circuits during testing and servicing. For example: "HE1-13." See Specification Section 260534 for labeling requirements.

2.4 PIPE SLEEVES

- A. Provide pipe sleeves where conduits larger than 2" pass through walls. Contractor shall be responsible for proper and permanent location. Conduit shall not be permitted to pass through footings, beams, or ribs, unless indicated and/or approved. Coordinate pipe sleeve locations with all other trades affected.
- B. Install pipe sleeves and properly secure in place with grout where conduit passes through masonry or concrete and at all fire-rated assemblies. Pipe sleeves shall be of a sufficient diameter to provide approximately 1/4" clearance all around the conduit. Fill void between conduit and sleeve with mineral wool to prevent sound transmission. Pipe sleeves in foundation walls shall be cast iron, 2" larger in diameter than the conduit installed. Pipe sleeves in walls, floors, and partitions shall be Schedule 40 black steel pipe. Extend sleeves above floor at least 1", pack space around conduit with fireproof material, and make watertight. Pipe sleeves passing through firewalls, smoke partitions, fire partitions, or floors shall be sealed with a UL-rated system appropriate for the specified rating.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install conduit concealed in walls, below floor slabs, and above ceilings, except conduit may be run exposed in mechanical and electrical equipment rooms. Maintain a minimum clear distance of 6" from parallel runs of flues, steam, or hot water pipes. Do not run conduit horizontally in concrete slabs.
- B. Use flexible steel conduit (minimum 18" in length, maximum 72" in length) for connections to all motors, dry-type transformers, water heaters, and any equipment subject to vibration.
- C. Group conduit so it is uniformly spaced, where straight and at turns. Make bends and offsets (where unavoidable) with a hickey or bending machine.
- D. Ream GRS and IMC conduit after threading to remove all burrs.
- E. Securely fasten conduit to outlets, junction boxes, and pull boxes to affect firm electrical contact. Join conduit with approved couplings. Running threads are not allowed.

- F. Exercise care to avoid condensation pockets in the installations. Keep conduit, fittings, and boxes free from foreign matter of any kind, before, during, and after installation.
- G. Do not use EMT below grade, outdoors and in wet locations.
- H. Support exposed runs of conduit in accordance with N.E.C. 342, 344, 348, 350 and 358 and parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceilings with right angle turns consisting of fittings or symmetrical bends. Support conduit within one foot of all changes in direction and on each side of the change.
- I. Supports shall be wall brackets, trapeze, strap hanger, or pipe straps, secured to hollow masonry with toggle bolts; to brick and concrete with expansion bolts; to metal surfaces with machine screws; and to wood with wood screws.
- J. Use explosive drive equipment to make connections where the use of this equipment is beneficial, and is subject to strict compliance with safety regulations and approved by the Owner.
- K. Wooden plugs inserted in masonry and the use of nails as fastening media are prohibited.
- L. Do not support conduit from lay in tile ceilings grids, ceiling grid hangers, or lay on ceiling tiles.
- M. Prime conduit with a surface conditioner "GalvaGrip" or approved equal and paint to match the surface on which attached. Conduit installed in mechanical and electrical rooms need not be painted.
- N. Install and support conduit from the underside of the upper chord in bar joist construction.
- O. Do not support conduit from or attach outlet or junction boxes to metal roof decks.
- P. Do not run conduit in the cavity of exterior walls between brick and CMU.
- Q. Where conduits penetrate vertically through fire-rated floors, or walls seal the conduits with a UL-Listed, water-resistant firestop material with a rating equal to or greater than the rating of the penetrated floors.

END OF SECTION 260533

SECTION 260534 - ELECTRICAL BOXES AND FITTINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SCOPE OF WORK

- A. Furnish and install all junction boxes of a type and size applicable for use in the location indicated on the drawings and where required by the NEC.
- B. Exercise special care in the location of outlet and junction boxes in order that the hanging or recessing of light fixtures will not be obstructed by piping or ductwork installed by other trades. To this end, coordinate the work with representatives of the other trades involved and by reference to the architectural, structural, mechanical, plumbing and sprinkler drawings.

PART 2 - PRODUCTS

2.1 OUTLET BOXES

- A. Outlet boxes shall be sheet steel, zinc coated, or cadmium plated.
- B. Provide existing and new outlet boxes installed but not used, including data outlets, with blank coverplates matching those provided on adjacent outlets.
- C. Size boxes as follows:
 - 1. Switch and Receptacle Outlet Boxes: Provide single gang outlet boxes 1-1/2" deep unless required to be larger. Provide extra deep boxes where required.
 - 2. Fixture Outlets in Ceiling: 4" octagonal, minimum. Where required to accommodate larger conduit or a larger number of wires: 4-11/16" by 2-1/8" deep.
 - 3. One-piece multi-gang boxes for use where two or more switches or receptacles are located side by side: 2-1/8" deep. Sectionalized boxes will not be allowed.
 - 4. Where larger size boxes are required or called for, they shall be similar in all other respects to the types specified above.
- D. Light fixture outlet boxes, where fixtures are to be mounted on the box, shall have suitable studs and supports for carrying the weight of the fixture. Increase box depth, as required, for additional wires and conduits.

- E. Boxes in new finished walls shall be flush mounted and have flush coverplates and proper type extension rings or plaster covers where required. Provide blank Series 302 stainless-steel coverplates on boxes not scheduled to receive coverplates of an otherwise specified type.
- F. Provide boxes located above suspended ceilings with galvanized steel covers, with openings or knockouts as required for type of service.
- G. Boxes installed in concrete construction shall be galvanized concrete type at all locations except where conduit or cast-iron boxes are required for watertight or vaportight outlets.
- H. Boxes installed in the floor shall be as specified on the drawings and shall comply with the requirements indicated on the drawings. Provide brass carpet flanges where boxes are installed in carpeted areas.

2.2 PULL BOXES AND JUNCTION BOXES

- A. Install pull boxes and junction boxes where required for changes in direction, at junction points, and where needed to facilitate wire pulling.
- B. Size boxes in accordance with the requirements of the NEC.
- C. Boxes shall be constructed of 12-gauge minimum hot-rolled sheet steel and shall be hot-dip galvanized inside and outside to match the conduit. Boxes shall have removable covers.
- D. Label the front face of the cover on each box with indelible black marker indicating the number of each circuit contained in or running through the box. In areas where exposed construction is the final finished condition and conduit and junction boxes are called out to be painted, label the inside face of the covers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Check all door swings and coordinate with all furniture, built-in equipment, and cabinetry prior to roughing-in conduit and boxes for switches, receptacles, and auxiliary system devices. Make necessary adjustments in the location of same to avoid conflicts as approved by the Engineer and at no additional cost to the Owner.
- B. Install all outlet boxes flush with wall or ceiling finish.
- C. Mounting heights of outlets in tile or unplastered masonry shall be varied plus or minus to the nearest block joint so the bottom or top of the box rests on a block joint. Install outlet boxes in the same space at the same height above finished floor unless indicated or required to be otherwise.
- D. Check the location of all wall outlets prior to roughing-in conduit to verify that the outlet will clear any wall fixtures, shelving, work tables, etc., that exist or will be installed. Make

necessary adjustments in the location of wall outlets to avoid conflicts as approved by the Architect and at no additional cost to the Owner.

- E. Prior to roughing-in conduit, coordinate with other trades and the Owner regarding all equipment requiring electrical connections. Required adjustments to the conduit and wire sizes shall be made at no additional cost.
- F. Conduit installation shall be rigid and secure, and, where necessary, angle iron (1" by 1" by 1/4" or larger) shall be provided to facilitate adequate mounting.
- G. Install electrical boxes and fittings in accordance with manufacturer's published instructions, applicable requirements of the NEC and NECA "Standard of Installation," and in accordance with recognized industry practices to fulfill project requirements.
- H. Coordinate installation of electrical boxes and fittings with wire/cable, wiring devices, and raceway installation work.
- I. Provide knockout closures to cap unused knockout holes where blanks have been removed in panel cans, terminal cabinet backboxes, junction boxes, outlet boxes and pull boxes.
- J. Install electrical boxes in those locations which ensure ready accessibility to enclosed electrical wiring.
- K. Do not install boxes back to back in walls. Provide not less than 6" (150 mm) separation. Thru-the-wall boxes may not be used.
- L. Position recessed outlet boxes accurately to allow for surface finish thickness.
- M. Fasten electrical boxes firmly and rigidly to substrates or structural surfaces to which attached or solidly embed electrical boxes in concrete or masonry.
- N. Subsequent to installation of boxes, protect boxes from construction debris and damage.
- O. Upon completion of installation work, properly ground all electrical boxes.
- P. Do not mount boxes to metal roof decking.

END OF SECTION 260534

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 SUMMARY

- A. This Section includes the following lighting control devices:
 - 1. Indoor occupancy sensors.
 - 2. Wall Switch Occupancy Sensors – Small Areas
 - 3. Low Voltage Occupancy Sensors
- B. Related Sections include the following:
 - 1. Division 26 Section "Wiring Devices and Device Plates" for wall-box dimmers and manual light switches.

1.3 DEFINITIONS

- A. LED: Light-emitting diode.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show installation details for occupancy and light level sensors.
 - 1. Provide scaled plan layouts of all occupancy sensor locations based upon the manufacturer's suggested layout for their equipment in full compliance with these specifications.
 - a. Show sensor type being supplied for each sensor location and the area of coverage for each sensor.
 - 2. Interconnection diagrams showing field-installed wiring.
- C. Field quality-control test reports.

- D. Operation and Maintenance Data: For each type of product to include in Emergency section of the operation and maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction and marked for intended use.
- B. Occupancy Sensing Detection Technology
 1. The occupancy sensor system shall sense the presence of human activity within the covered space and fully control the on/off function of the lighting.
 2. Sensors shall utilize passive infrared (PIR) technology, which detects occupant motion, to initially turn lights on from an off state; thus preventing false on conditions. Ultrasonic or Microwave based sensing technologies will not be accepted.
 3. For applications where a second method of sensing is necessary to adequately detect maintained occupancy (such as in rooms with obstructions), a sensor with an additional “dual” technology shall be used.
 4. Dual technology sensors shall have one of its two technologies not require motion to detect occupancy. Acceptable dual technology includes PIR/Microphonics (also known as Passive Dual Technology or PDT) which both looks for occupant motion and listens for sounds indicating occupants. Sensors where both technologies detect motion (PIR/Ultrasonic) will not be acceptable.
 5. All sensing technologies shall be acoustically passive meaning they do not transmit sounds waves of any frequency (for example in the Ultrasonic range), as these technologies have the potential for interference with other electronic devices within the space (such as electronic white board readers). Acceptable detection technologies include Passive Infrared (PIR), and/or Microphonics technology. Ultrasonic or Microwave based sensing technologies will not be accepted.
- C. Occupancy Sensor Operation Requirements
 1. Sensors shall offer a minimum on timer of at least 15 minutes, in order to prevent cycling of lamps before they have burned in accordance with the lamp manufacturer’s minimum recommended time period. This timer shall be in addition to the regular occupancy time delay that keeps lights on after last detected occupancy. User shall be able to disable/enable and change the value of this timer.
 2. Sensors shall utilize an occupancy time delay that keeps lights on after last detected occupancy. Factory default setting of the occupancy time delay shall be 10 minutes. Sensors with a longer factory default setting will not be permitted.
 3. Manual adjustment to the occupancy time delay so as to increase it shall be accommodated, but will not be allowed unless approved by the Owner.
 4. All sensors shall be factory calibrated for optimum performance for its installed PIR lens, and shall not require initial or subsequent field adjustment of detection sensitivity.
 5. All sensor setting adjustments shall be digital and made using a push-button. Dip switches, analog dials, and/or the need for tools of any kind will not be accepted.
 6. The contractor is responsible for a complete and functional system in accordance with all applicable local and national codes.

1.6 COORDINATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression system, and partition assemblies.
- B. Sensors are shown schematically only. Contractor shall provide an adequate quantity of sensors as needed to completely cover the space being controlled. If the Architect deems coverage to be unacceptable, contractor shall provide additional sensors as required to satisfy Architect at no additional cost.

1.7 MISCELLANEOUS REQUIREMENTS

- A. All steps in sensor manufacturing process will occur in the USA; including population of all electronic components on circuit boards, soldering, programming, wiring, and housing. Manufacturing facility must be ROHS compliant.
- B. In high humidity or cold environments, the sensors shall be conformably coated and rated for condensing humidity and -40 degree Fahrenheit (and Celsius) operation.
- C. All applicable products must be UL Listed.
- D. Sensors shall carry a full 5-year warranty.

1.8 MANUFACTURER AND SUBSTITUTIONS

- A. The basis of design for the products specified herein is those manufactured by Sensor Switch, Inc.
- B. Substitutions may be submitted for review. All substitutions must clearly identify any and all exceptions to the specifications with a detailed explanation as to the exception. If the substitution is approved, the contractor shall bear the responsibility of a fully functional system to the Architect.

PART 2 – PRODUCTS

2.1 INDOOR OCCUPANCY SENSORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Hubbell Lighting.
 - 2. Leviton Mfg. Company Inc.
 - 3. Lithonia Lighting; Acuity Lighting Group, Inc.

4. TORK.
5. Watt Stopper (The).
6. Sensor Switch.
7. Crestron.

B. General Description: Wall- or ceiling-mounting, solid-state units with a separate relay unit or line voltage.

1. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time-delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes. Shall also be capable of operating as a vacancy sensor.
2. Sensor Output: Contacts rated to operate the connected relay complying with UL 773A. Sensor shall be powered from the relay unit.
3. Relay Unit (if required): Dry contacts rated for 20-A ballast load at 120 and 277-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
4. Mounting:
 - a. Sensor: Suitable for mounting in any position on a standard outlet box.
 - b. Relay: Externally mounted through a 1/2-inch (13-mm) knockout in a standard electrical enclosure.
 - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
5. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
6. Bypass Switch: Override the on function in case of sensor failure.
7. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (21.5 to 2152 lx); keep lighting off when selected lighting level is present.
8. Provide single or 2-pole switches as required/indicated on drawings.

C. Dual-Technology Type: Ceiling mounting; detect occupancy by using a combination of PIR and ultrasonic detection methods in area of coverage. Particular technology or combination of technologies that controls on-off functions shall be selectable in the field by operating controls on unit.

1. Sensitivity Adjustment: Separate for each sensing technology.
2. Detector Sensitivity: Detect occurrences of 6-inch- (150-mm-) minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. (232 sq. cm), and detect a person of average size and weight moving not less than 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
3. Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.

2.2 WALL SWITCH OCCUPANCY SENSORS – SMALL AREAS

A. Sensor shall provide wall-to-wall PIR detection such that small hand motions are detected out to 20 ft (6.10 m).

- B. In areas with periodic or permanent obstruction to a sensor's field of view, sensors that utilize dual technology (PIR/Microphonics) detection shall be used.
- C. Sensors shall be capable of switching 120 VAC and 277 VAC. Load ratings shall be 800 W @ 120 VAC, 1200 W @ 277 VAC [and ¼ HP motor loads.]
- D. Sensor shall recess into single gang switch box and fit a standard GFI opening.
- E. Sensor shall meet NEC grounding requirements by providing a dedicated ground connection and intrinsically grounding through its mounting strap.
- F. Sensor shall not require a neutral connection regardless of number of poles and/or detection technology.
- G. Sensor shall not allow any leakage of current to pass to the load when sensor is in the unoccupied (off) condition. Sensor shall not require a minimum load to be connected in order to function.
- H. Sensor shall have optional features available for photocell/daylight override, vandal resistant lens, low temperature/high humidity operation.
- I. All sensor settings, including time delay and photocell settings shall be digital and accessible for adjustment via a push-button without requiring removal of cover plate or tools of any kind.
- J. Wall Switch sensors shall have field programmable adjustments for selecting operational modes, occupancy time delays, minimum on time, and photocell set-point as applicable.
 - 1. All models shall be capable of both Auto-On and Manual On operation.
 - 2. All models shall be capable of a "Reduced Turn On" operation where the initial PIR turn on level is higher in order to eliminate PIR from reflective surfaces from being detected. PIR shall be returned to normal levels upon initial PIR detection.
 - 3. All models shall have a "Predictive Off" mode where user can manually turn the lights off when leaving the room and still have them come on automatically when they return to space.
- K. All models shall be capable of disabling override switch.
- L. Sensors shall be the following Sensor Switch model numbers or approved equals:
 - 1. WSX PDT SA (PIR/Microphonics, Manual On by default)

2.3 WALL SWITCH DIMMING OCCUPANCY SENSORS – SMALL AREAS

- A. Sensor shall provide wall-to-wall PIR detection such that small hand motions are detected out to 20 ft (6.10 m).
- B. In areas with periodic or permanent obstruction to a sensor's field of view, sensors that utilize dual technology (PIR/Microphonics) detection shall be used.

- C. Sensors shall be capable of switching 120 VAC and 277 VAC. Load ratings shall be 800 W @ 120 VAC, 1200 W @ 277 VAC [and ¼ HP motor loads.]
- D. Sensor shall recess into single gang switch box and fit a standard GFI opening.
- E. Sensor shall meet NEC grounding requirements by providing a dedicated ground connection and intrinsically grounding through its mounting strap.
- F. Sensor shall not require a neutral connection regardless of number of poles and/or detection technology.
- G. Sensor shall not allow any leakage of current to pass to the load when sensor is in the unoccupied (off) condition. Sensor shall not require a minimum load to be connected in order to function.
- H. Sensor shall have optional features available for photocell/daylight override, vandal resistant lens, low temperature/high humidity operation.
- I. All sensor settings, including time delay and photocell settings shall be digital and accessible for adjustment via a push-button without requiring removal of cover plate or tools of any kind.
- J. Wall Switch sensors shall have field programmable adjustments for selecting operational modes, occupancy time delays, minimum on time, and photocell set-point as applicable.
 - 1. All models shall be capable of both Auto-On and Manual On operation.
 - 2. All models shall be capable of a “Reduced Turn On” operation where the initial PIR turn on level is higher in order to eliminate PIR from reflective surfaces from being detected. PIR shall be returned to normal levels upon initial PIR detection.
 - 3. All models shall have a “Predictive Off” mode where user can manually turn the lights off when leaving the room and still have them come on automatically when they return to space.
- K. All models shall be capable of disabling override switch.
- L. Compatible with 0-10V dimming luminaries
- M. Sensors shall be the following Sensor Switch model numbers or approved equals:
 - 1. WSX PDT D SA (PIR/Microphonics, Manual On by default)

2.4 LOW VOLTAGE OCCUPANCY SENSORS

- A. Contractor shall install one or more sensors with PIR coverage areas that cover the entire space and all entrance points.
- B. In areas with periodic or permanent obstruction to a sensor’s field of view, sensors that utilize dual technology detection shall be used.

- C. Sensors shall utilize a digital PIR detector (dual element pyro-electric detector) component, so as to provide a high degree of RF immunity.
- D. Sensors shall interconnect with other sensors and power/relay packs with class 2, three-conductor wiring.
- E. Sensors shall operate on 12 to 24 VAC or VDC and consume no more than 5 mA so that up to 14 sensors may be connected to a single power pack.
- F. Upon initial power up, sensors must immediately turn on. Power packs may be wired on the line or load side of local switching and must not exhibit any delays when switch is energized.
- G. Each designated zone shall contain one sensor with a SPDT class 2 auxiliary relay, providing an input to building automation system (BAS) if required. All sensors in designated zone shall communicate to sensor with relay for status to BAS. Sensor relay coil shall energize in the unoccupied state to load share the low voltage current from power pack. Note that power pack must be installed on the Line side of the local toggle switch for auxiliary relay to work properly.
- H. Sensors shall have test mode that temporarily shortens/disable all time delays (e.g., minimum on, occupancy, photocell transition, dimming rates) such that an installer can quickly test operation of sensor. Test mode shall time out and return sensor to normal operation should the installer forget to disable test mode after installation.
- I. Sensors shall have optional features for on/off photocell control, automatic dimming control photocell, high/low occupancy based dimming, and usage in low temperature/high humidity environments.
- J. Sensors shall be the following Sensor Switch model numbers.
 - 1. CM PDT 10 (PIR/Microphonics, Ceiling Mount, Extended Range)
 - 2. WV PDT 16 (PIR/Microphonics, Corner Mount, Wide View)
 - 3. HW13 (PIR, Wall Mount, Hallway View)
 - 4. CM 6 (PIR, Ceiling Mount, High Bay 360°)

2.5 LINE VOLTAGE OCCUPANCY SENSORS

- A. Sensors shall be self-contained and accept Class 1 wiring directly without the use of a power pack.
- B. The installing contractor shall install one or more sensors with PIR coverage areas that cover the entire space and all entrance points. Exact placement and quantity required shall be per manufacturer's best practice recommendations.
- C. In areas with periodic or permanent obstruction to a sensor's field of view, sensors that utilize dual technology (PIR/Microphonics) detection shall be used (as specified in above section 1.1, *Occupancy Sensor Technology Requirements*).

- D. Sensors shall utilize a digital PIR detector (dual element pyro-electric detector) component, so as to provide a high degree of RF immunity.
- E. Line and load wire connections shall be interchangeable, such that installer cannot make an improper connection to a line/load in a manner that will cause malfunction or damage to the sensor.
- F. Multiple sensors controlling the same load shall be wired in parallel.
- G. For applications requiring independent control of two loads, a sensor with two dual relays shall be required. Each relay shall have independent programmable occupancy time delays.
- H. Dual relay sensors shall have an optional operational mode called “Alternating On” where when during unoccupied periods, one relay is always left closed (thus one load is always on). The particular relay that is left closed alternates each cycle so that the aging of the connected lamps is even.
- I. Sensors shall be capable of switching both 120 VAC and 277 VAC and run off of 50/60 Hz power. A version capable of switching 347 VAC shall also be available. Load ratings shall be 800 W @ 120 VAC, 1200 W @ 277 VAC, 1500 W @ 347 VAC, and ¼ HP motor load.
- J. Specific sensors capable of switching 5 Amps of two phase power (208/240 or 480 VAC) shall be available. These sensors shall always simultaneously switch both phases as per NEC guidelines.
- K. Wall mounted sensors must be installed at 7 to 8 feet above the floor. Single and two circuit units shall be available.
- L. High bay sensors controlling HID Bi-Level must incorporate a “Start to High” timer on initial power up to provide full light output for up to 20 minutes to prevent shortened lamp life.
- M. Sensors shall have test mode that temporarily shortens/disable all time delays (e.g., minimum on, occupancy, photocell transition, dimming rates) such that an installer can quickly test operation of sensor. Test mode shall time out and return sensor to normal operation should the installer forget to disable test mode after installation.
- N. Sensors shall have optional features for on/off photocell control, automatic dimming control photocell, high/low occupancy based dimming, and usage in low temperature/high humidity environments.
- O. Sensors shall be the following Sensor Switch models or approved equal:
 - 1. CMR PDT 10 / CMR PDT 10 2P (Extended Range 360°, PIR/Microphonics Dual Technology, Ceiling Mount – Single / Two Pole)
 - 2. WVR 16 / WVR 16 2P (Wide View, PIR, Wall Mount – Single / Two Pole)
 - 3. WVR PDT 16 / WVR PDT 2P (Wide View, PIR/Microphonics Dual Technology, Wall Mount – Single / Two Pole)
 - 4. CMR 6 / CMR 6 2P (High Bay 360°, PIR, Ceiling Mount – Single / Two Pole)

PART 3 - EXECUTION

3.1 SENSOR INSTALLATION

- A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression systems, and partition assemblies.
- B. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.
- C. Provide no less quantity of sensors as shown on plans but add additional sensors when required to fulfill coverage requirement for the specific model of the sensor provided.
- D. Provide occupancy sensor operation that requires movement to activate luminaires controlled and turns luminaires off after a set time of inactivity.
- E. Provide vacancy sensor operation that requires manual control to activate luminaires and turns luminaires off after a set time of inactivity.

3.2 WIRING INSTALLATION

- A. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and non-power limited conductors according to conductor manufacturer's written instructions.
- B. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.
- C. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate lighting control devices and perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections
 - 1. Operational Test: After installing sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Lighting control devices will be considered defective if they do not pass tests and inspections.

- E. Prepare test and inspection reports.

3.4 ADJUSTING

- A. For occupancy sensors, verify operation at outer limits of detector range. Set time delay to suit Owner's operations.

3.5 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

END OF SECTION 260923

SECTION 265100 - INTERIOR BUILDING LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and Section 260100, "Electrical General Provisions," apply to this Section.

1.2 DEFINITIONS

BF:	Ballast factor.
CBMA:	Certified Ballast Manufacture Association
CCT:	Correlated color temperature
THD:	Total Harmonic Distortion
CFL:	Compact Fluorescent
CRI:	Color-rendering index.
CU:	Coefficient of utilization.
RCR:	Room cavity ratio.
HID:	High-intensity discharge.
L70:	Minimum 70% maintained initial-rated lumens at average rated life for LEDs.
IESNA:	Illuminating Engineering Society of North America
LM-80:	IESNA approved method of measuring Lumen Depreciation of LED Light Sources
LED:	Light Emitting Diode
UL:	Underwriter Laboratories

1.3 SCOPE OF WORK

- A. Extent of interior light fixture work is indicated by drawings and schedules.
- B. Light fixtures shown installed on exterior walls or under canopies attached to the building are considered interior building lighting.
- C. Types of interior light fixtures in this Section include the following:
 - Light-emitting Diode

1.4 QUALITY ASSURANCE

- A. Comply with the requirements of the NEC, as applicable to installation and construction of interior building light fixtures.

- B. Provide interior light fixtures which are UL-Listed and labeled.
- C. Provide fluorescent lamp ballasts which comply with Certified Ballast Manufacturers Association standards and carry the CBMA label.
- D. Provide LED drivers which comply with NEMA SSL-1, "Electronic Drivers for LED Devices, Arrays, or Systems", and SSL-3, "High Power White LED Binning for General Illumination".

PART 2 - PRODUCTS

2.1 INTERIOR LIGHT FIXTURES

- A. Provide light fixtures of sizes, types, and ratings indicated; complete with, but not limited to, housings, lamps, lamp holders, reflectors, ballasts, starters, LED module, LED drivers and wiring. Provide fixture trims as required for proper installation into the type ceiling in which installed. Review Architectural reflected ceiling plans for ceiling types and construction and provide all mounting hardware required for proper installation of the fixtures specified for the location.

2.2 LED LIGHT FIXTURES

- A. LED fixtures shall be in compliance with UL.
- B. Interior Area LED Fixtures:
 - 1. Kelvin temperature of interior fixtures as indicated on drawings.
 - 2. Minimum of 75 plus lumens per watt.
 - 3. CRI 80 or greater.
 - 4. 5-year warranty minimum with L70 of 50,000 hours or greater.
 - 5. Modular design for field replacement of parts.
 - 6. Tool less access to driver and LED modules.
 - 7. Cannot have LED pixilation (or commonly called bug eye effect).
 - 8. UL certified up to 90F degrees operating temperature.
- C. Manufactured by one of the following:
 - 3. Philips LumiLED.
 - 5. Cooper Industries.

2.3 RECESS- AND FLUSH-MOUNTED FIXTURES

- A. Provide light fixture types which can be relamped from the bottom. Access to ballasts shall be from the bottom. Trim for the exposed surface of flush-mounted fixtures shall be as required for the ceiling construction in which it is installed.

2.4 SUSPENDED FIXTURES

- A. Provide hangers capable of supporting twice the weight of the fixture supported by the hanger. Provide with swivel hangers to ensure a plumb installation. Hangers shall be cadmium-plated steel with a swivel-ball tapped for the conduit size required. Hangers shall be shock-absorbing type where indicated. Hangers shall allow fixtures to swing within an angle of 20 degrees. Multiple-unit or continuous row fixtures shall have a tubing or stem for wiring at one point and a tubing or rod suspension provided for each unit length of chassis, including one at each end, unless indicated otherwise. Rods shall be a minimum .18" diameter.

2.5 EXIT LIGHTS

- A. Exit lights shall be in conformance with UL and NFPA. Exit lights shall be self-powered type where indicated.
- B. Self-Powered LED-Type Exit lights (Battery Backup): Provide with automatic power failure device, test switch, pilot light and fully automatic high/low trickle charger in a self-contained power pack. Battery shall be sealed electrolyte type, shall operate unattended, and require no maintenance, including no additional water, for a period of not less than 5 years. LED exit lights shall have emergency run time of 1.5 hours (90 minutes) minimum.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install interior light fixtures at locations and heights as indicated in accordance with fixture manufacturer's published instructions, applicable requirements of the NEC, NECA "Standard of Installation," NEMA standards, and with recognized industry practices to ensure that light fixtures fulfill requirements.
- B. Coordinate with all other work on this Contract as appropriate to properly interface installation of interior light fixtures.
- C. Fasten fixtures securely to building structural members, and check to ensure that solid pendant fixtures are plumb. Recessed fixtures shall be supported with individual annealed, light zinc-coated finish, 12-gauge wire from all four corners tied to building structural members. Securing safety wires to bridging is not acceptable. The supporting wires shall be distinguishable by color or tagging.
- D. Clean interior light fixtures of dirt and debris (including lenses) upon completion of installation.
- E. Protect installed fixtures from damage during entire construction period.

3.2 FIELD QUALITY CONTROL

- A. Upon completion of installation of interior light fixtures and after building circuitry has been energized, apply electrical energy to demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units, and proceed with retesting.
- B. At the time of Substantial Completion, replace lamps in interior light fixtures which are observed to be noticeably dimmed after Contractor's use and testing, as judged by the Architect.

3.3 GROUNDING

- A. Provide tight equipment grounding connections for each interior light fixture installation.

END OF SECTION 265100